UNIVERSITY OF GEORGIA
SEP 2 1955
LIBRARIES

AUGUST 1955

Drug and Cosmetic Industry

including packaging and selling

NORDA does what Nature does...

NORDA makes good scents

To smell a sweet pea is to wonder again just what Nature knows as she works. But she keeps her great secrets locked.

Norda has for many years been creating very fine scents and fine odors. Norda skills have succeeded in producing fragrances with the character Nature so subtly and truly puts into her own.

There is a Norda scent with the exquisite delicacy your perfumed products demand. There is a Norda odor to fill your deodorant needs. Norda will give you aerosol mists the quality that will sell them.

Economy points to Norda. Send for *free* Norda samples today.

Always remember — never forget . . . Norda Makes Good Scents

Norda Essential Oil and Chemical Company, Inc.
601 West 26th Street, New York 1, N. Y.

CHICAGO • LOS ANGELES • SAN FRANCISCO • MONTREAL • HAVANA • LONDON • PARIS • GRASSE • MEXICO CITY

Duveen

soapmaker to the cosmetic industry

DUVEEN SOAP CORPORATION

36-14 35th street

long island city 6, new york

telephone stillwell 4-7870

Drug and Cosmetic Industry

August 1955 Vol. 77 No. 2

feature articles

173 **Committee Reports on FDA**

176 **The Doctor's Psychology and Selling**
by Ernest Dichter, Ph.D.

178 **Carbopol 934 in Cosmetics and Pharmaceuticals**
by W. Lewis Nobles

180 **Cream Rinses**
by Harry Hilfer

182 **Liquid Creams**
by Joseph Kalish, Ph.D.

184 **Antibiotic Production Development**
by John E. McKeen

186 **Brushless Shaving Cream**
by William R. Keithler

188 **Big Business in Pharmaceuticals**

189 **Packaging and Selling Section**

193 **New Idea in Package Design**
by Frank S. Child

195 **Color in Packaging**
by Sol Udell

departments

165 **Keeping Posted**
by Thomas R. Farrell

199 **Packaging and Selling**
by Frazer V. Sinclair

208 **Doin's**

216 **Patent Thoughts and Trends**
by Thomas Cifelli, Jr.

219 **News**
by Frank S. Child

237 **Management Forum**
by Francis Chilson

247 **Compounder's Corner**
by Joseph Kalish, Ph.D.

251 **Advancing Therapy**
by Joseph Kalish, Ph.D.

256 **Perfumer's Shelf**
by Joseph Kalish, Ph.D.

259 **Skin Research**
by Joseph Kalish, Ph.D.

262 **Readers' Questions**
by Joseph Kalish, Ph.D.

264 **Industry's Books**
by Harry G. Kelbly

267 **Trade Literature**

THOMAS R. FARRELL, *Editor*
FRANK S. CHILD, *Managing Editor*
JOSEPH KALISH, Ph. D., *Technical Editor*
HARRY G. KELBLY, *Raw Material Editor*
FRANCIS CHILSON, *Production Consultant*
MAX FRANKEL, *Art Director*

Drug & Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Editorial and General Office: 101 West 31st St., New York 1, N. Y., U. S. A. Publication Address: Sun Printing Corp., 28 Renne Ave., Pittsfield, Mass., U. S. A.

Reprints of cover illustrations are available on request.

Business Manager, Frazer V. Sinclair; Advertising Manager, P. W. Alexander; Advertising Representatives, Walter M. Brauneiss, C. R. Keeley; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

Midwestern Advertising Representative: Dwight Early and Sons, 100 No. LaSalle St., Chicago 2, Telephone, CEntral 6-2184.

Subscription price $3.00 a year, in advance. Foreign Countries, $5.00. Single copies, 35c; Back issues 50c. Entered as Second Class Matter, January 1, 1928 at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879. Member of Audit Bureau of Circulations.

Contents Copyrighted 1955
by Drug Markets Inc.

STANDARD

WHITE OILS
PETROLATUMS

Makers of hair grooming preparations—oils, creams, pomades, brilliantines, tonics—specify STANDARD White Oils and Petrolatums, and thus obtain uniformity of finished product and uniform high quality.

Would you like additional information about STANDARD White Oils and Petrolatums for hair grooming preparations? In the Midwest a call to your nearby Standard Oil office will bring a prompt response. Or contact, Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

STANDARD OIL COMPANY (Indiana)

U.S.P. WHITE OILS

STANOLIND Liquid Paraffin Heavy
SUPERLA White Mineral Oil (Nos. 18, 21, 34)

N.F. WHITE OILS

SUPERLA White Mineral Oil (Nos. 9, 10, 13, 15)

TECHNICAL WHITE OILS

SUPERLA WHITE ROSE Oil
Extra WHITE ROSE Oil
PREMIER White Oil
WHITE ROSE Oil
ACME White Oil
EUREKA White Oil

PETROLATUMS

STANOLENE
Premium White

STANOLIND
Snow White
Lily White
Cream White
Golden Topaz
Topaz
Amber
Red Veterinary
Dark

FROM COAST TO COAST

Avon's Strategically Located Laboratories in the United States and Canada Provide Manufacture and Packaging for Famous Private Brands of Fine Cosmetics*

Your cosmetics and toiletries have the advantage of production near your best markets . . . East, West or Canada . . . when you have them prepared by Avon. You will find it economical to have your products produced at any one of these laboratories, or at all at the same time, assuring you a real saving in delivery time and cost.

Your Private Brands will be produced with strict adherence to the formulae you desire . . . and be packaged precisely as you wish. Avon's specialized knowledge and experience, developed over the past 69 years, are your assurance of quality in every phase of production.

Call or write Avon for complete information concerning the production of your own brands of toiletries and cosmetics.

Avon Products INC.

Private Brand Division, 30 Rockefeller Plaza, New York 20, N. Y.

*STRATEGICALLY LOCATED LABORATORIES IN SUFFERN, NEW YORK; PASADENA, CALIFORNIA; MONTREAL, CANADA.

A New Milestone of Modern Perfume Research

AMBROPUR

»DRAGOCO«

(REGISTERED)

embodies the 100% fragrance principle of highest-quality genuine ambergris in its purest form. That's why it possesses the true ambergris odour – full, warm, and velvety – that perfects perfume, enhancing and fixing it without changing the character of a composition.

Please ask four our Special DRAGOCO-REPORT on AMBROPUR DRAGOCO.

DRAGOCO HOLZMINDEN

DRAGOCO HOLZMINDEN, WEST GERMANY Telex. 096326 Cables: DRAGOCO HOLZMINDEN (West Germany)

The Height of Appeal

The essence of appeal in your cosmetics, soaps, creams and toilet preparations is the fragrance you instill in it.

Here at *Synfleur*, the problem of reproducing and improving upon nature has been met successfully in an almost limitless array of products for 65 years.

This long experience in efficiently and economically enhancing commercial appeal with original compositions, aromatic bases and other perfume materials has fostered an enviable creative skill and tradition at *Synfleur*.

Turn this skill to your advantage when introducing new products or modernizing old ones. The facilities of our exceptionally competent laboratories are at your disposal.

Founded 1889 by Alois Von Isakovics

Synfleur Scientific Laboratories, Inc.

MONTICELLO, N. Y.

ATLANTA • DETROIT • NEW YORK • HAVANA • RIO DE JANEIRO • MEXICO, D. F.
Chicago • Melbourne • Burma • Hong Kong • Bogota • San Jose
Ciudad Trujillo • Guayaquil • Guatemala City • Calcutta • Wellington
Managua • Panama • Asuncion • Manila • San Salvador • Montevideo
CANADA: Herman & Leal • 637 Craig Street West • Montreal, Quebec

DOW PROPYLENE GLYCOL, U. S. P.

DOW

ONE SOLVENT SERVING MANY PHARMACEUTICALS

. . . improving preparations for internal consumption, topical application or injection

The formulation of pharmaceuticals demands a dependable solvent. It must be safe, medically acceptable and a good carrier. Propylene glycol, U. S. P., fills these exacting specifications for many approved pharmaceuticals today—may easily do the same for your products.

In some formulations propylene glycol, U. S. P., also provides important preservative action—others benefit from its emollient, humectant or lubricant properties. Truly versatile in its solvent properties, propylene glycol is effective with many organic chemicals used in the field of chemotherapy—indicating its value in injectables, antiseptics, salves, elixirs and ointments.

Standard of dependability in both quality and supply is Dow propylene glycol, U. S. P. Aiding in product improvement for cosmetics as well as pharmaceuticals, its use has brought economy in many cases. For your sample and information on properties, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. OC 811-G-2.

you can depend on DOW CHEMICALS DOW

Quality Makes the Difference

Streamline your STEARIC ACID requirements. Where high quality STEARIC ACID is needed, there you will find GROCO 55L—LOW IODINE VALUE TRIPLE PRESSED STEARIC ACID.

For better heat resistance, for lower percentages of unsaturates, for the 55%—45% Palmitic-Stearic ratio, send for a trial sample of GROCO 55L — LOW IODINE VALUE TRIPLE PRESSED STEARIC ACID.

For full information, send for our new catalog, "Fatty Acids In Modern Industry"

DISTILLED STEARIC ACID

	GROCO 55L Triple Pressed
Titre	54.5° — 55.2°C.
Titre	130.1° — 131.4°F.
Color 5¼" Lovibond Red	0.5 max.
Color 5¼" Lovibond Yellow	1.5 max.
Saponification Value	207 — 209
Acid Value	206 — 208
Iodine Value (WIJS)	1 max.

A. GROSS & COMPANY

MANUFACTURERS SINCE 1837

295 MADISON AVENUE, NEW YORK 17, N. Y. • FACTORY: NEWARK, N. J. • DISTRIBUTORS IN PRINCIPAL CITIES

ADVERTISEMENT—*This entire page is a paid advertisement* *Prepared by U. S. Industrial Chemicals Co.*

U.S.I. CHEMICAL NEWS

July-Aug. ★ A Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1955

ATTENTION

Users of Taxfree and Specially Denatured Alcohol

Now is the time for users of specially denatured alcohol to renew their basic permit (Treasury Department Form 1479) for 1956. It is also time for users of taxfree alcohol to complete and file with the Assistant Regional Commissioner—Alcohol and Tobacco Tax Division—their application (Form 1450) for renewal of their Taxfree Alcohol permit for 1956.

Permittees who withdraw industrial alcohol in drums should note that U.S.I. and most of the chemical industry will increase standard filling of drums to 55 wine gallons each (currently 54 gallons) at the start of 1956. It is recommended that total gallonage of renewal permits be calculated to cover withdrawals in multiples of 55.

If you require renewal forms or any assistance in their preparation, please call your nearest U.S.I. office.

U.S.I. High Molecular Weight Polyethylene Will Coat Paper Too

U.S.I.'s Petrothene 200, an all-purpose polyethylene resin developed for extrusion of packaging film and molding of semi-rigid forms, exhibited some unexpected characteristics during tests recently. The resin was successfully extruded as a laminate for paper coating, an application usually reserved for lower molecular weight types.

At the same time, the material was extruded successfully as unsupported lay-flat tubular and flat film forms, the most demanding operation for high molecular weight types of polyethylene. Further tests are being conducted to confirm the unexpected versatility of Petrothene 200.

Chemical Producers Going To New Drum Standard

As a move toward higher materials handling efficiency, more and more chemical and petroleum producers are going to drums with both openings in the head, none on the side. The drum commonly in use today has a two-inch opening on the side and a ¾ inch opening in the head, and frequently complicates handling in a customer's plant. U.S.I. is switching to the new drum on some of its products within the next few months.

The new type drum meets the Universal Standard Drum Specifications as set up by the Petroleum Packaging Committee and the Steel Shipping Container Institute.

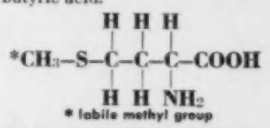
METHIONINE CALLED "MIRACLE" AMINO ACID

Versatility of Methionine Leads to Increased Use in Pharmaceutical, Medical, Veterinary Fields: Is Now Playing Vital Role in Animal Nutrition

Outstanding results with methionine have prompted a leading medical authority to suggest that this essential sulfur amino acid may in the future be as important as today's "miracle" antibiotics. According to this authority, there are few materials, if any, with such unusual diversity in their medical uses.

Essential to Growth, Metabolism

Methionine is necessary for growth, repair and metabolism of all human and animal tissue. Chemically it is DL-2-amino-4-(methylthio) butyric acid.



* labile methyl group

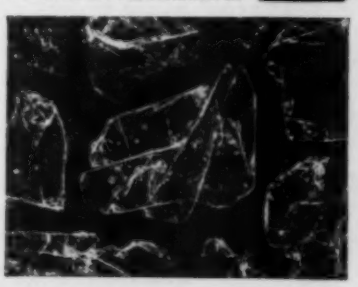
Much of its versatility is attributed to the carbon-sulfur linkage and the labile methyl group. Newer techniques in biochemical research have brought out some of the following characteristics:

- ... Aids in converting dietary protein to tissue protein
- ... Maintains nitrogen balance
- ... Participates in sulfur metabolism
- ... Has trans-methylation activity
- ... Is a precursor of bile acids and improves liver function
- ... Helps rebuild damaged kidney tissue
- ... Speeds wound healing
- ... Helps overcome adverse effects of stress factors such as temperature extremes, disease, overmedication, etc.
- ... Increases antibody production
- ... Acts as a detoxifier, overcoming effects of many toxic compounds due to accidental ingestion, overmedication, tissue injury, heavy metals, etc.
- ... Helps hormone activity

Many Pharmaceutical Applications

Methionine is valuable for its detoxifying properties and for preventing fatty infiltration of the liver. It has been used in formulas in

MORE



Crystals of DL-Methionine as seen under a microscope.

Ammonia Ups Efficiency of Lube Oil Refining

Where lube oil feed stocks run high in undesirable naphthenic acids, satisfactory removal by the usual solvent extraction method becomes highly uneconomical. An excessive amount of solvent must be used. Yields are cut.

According to a recent patent, the problem is now being solved by the addition of ammonia to the solvent-oil system. Neutralization numbers—measures of naphthenic acid content—have been reduced to well below the acceptable 0.1mg. KOH per g. of oil, where values up to 0.2 had previously been obtained. Ammonia is used in amounts below one percent based on the volume of oil.

This is one of several new industrial uses for ammonia that have been revealed within the past few months. Year-round applications of this kind help to smooth out the extremely seasonal fertilizer demand curve which has caused concern to ammonia manufacturers anxious to maintain uniform production levels from month to month.

Right now U.S.I. and other ammonia producers are filling storage facilities left empty by the just-completed fertilizing season.

Sodium-Butadiene Reactions Produce New Chemicals

Buna rubber derives its name from a BUtadiene-Na reaction developed in England and Germany simultaneously, and industrially important in Germany during the late 1920's. Inability to obtain high sodium surface area at that time resulted in poor control and led to a change in the process.

Today new butadiene-sodium reactions are reaching commercial importance. One reason for this renewed interest has been the development by U.S.I. of sodium dispersions—stable suspensions of microscopic sodium particles in inert hydrocarbon media. This new form permits controlled reaction temperatures, increased yields and decreased side reactions.

Recent patents have been issued covering new butadiene-

MORE

ADVERTISEMENT—*This entire page is a paid advertisement* *Prepared by U. S. Industrial Chemicals Co.*

July-Aug. ★ **U.S.I. CHEMICAL NEWS** ★ 1955

CONTINUED

Methionine

dermatology and cosmetics and has been found effective for treatment of acne and falling hair. Addition of methionine to infant formulas has been found helpful in overcoming diaper rash. Pediatric experience has shown that daily additives of 180 milligrams of methionine to infant formulas have produced optimum gains in weight. This has led progressive manufacturers to use it in specialized supplements for young children. It is also an important metabolite in geriatric preparations. Oral ingestion of methionine has been reported effective in removing warts. It has improved the ability of the eye to become adjusted to night vision, an effect found to last from 24 to 32 hours. Methionine has been found valuable in the treatment of obstetric complications associated with liver damage of the mother and newborn often due to Rh incompatibility.

Essential in Healing

Trace studies with "tagged" compounds have proved that methionine plays an essential role in the synthesis of connective tissue and increases the rate of wound healing. Topical application of N-acetyl DL-methionine has helped in healing varicose leg ulcers which had not responded to other treatment.

Aids in Metabolic Balance

Nitrogen retention studies show that metabolic balance is affected by methionine. This compound has been more effective than Vitamin B_{12} for promoting weight recovery following protein starvation. Methionine reportedly assists in restoring normal metabolism after experimental overdoses of thyroid hormone. Other experiments indicate that certain liver disorders and anemia can be alleviated by adding methionine to the diet. It has been tested and found effective for reduction of blood cholesterol levels. Methionine aids hormone activity and, according to recent reports, injection of methionine has produced significant response in experimental animals.

Necessary in Animal Feeds

Feed manufacturers add methionine to various rations for increased growth and feed efficiency. Methionine in dog food formulations makes more of the protein in the ration available for growth and maintenance of health.

It has recently been reported that a direct relationship exists between methionine requirements and the energy level of the diet. Such a direct relationship is of great importance in formulation of high energy rations. Price reductions of feed grade methionine in the last few years have made it even more practical to include optimum amounts of methionine in manufactured feed.

Alcohol Injections To Brain Curing Parkinsonism

A New York doctor has devised an operation using absolute alcohol to relieve the uncontrollable tremor of Parkinson's disease. He inserts a plastic tube into the gray matter of the brain and injects procaine, which should check the tremor temporarily. If it does, he is sure the right spot has been reached, and absolute alcohol is then injected to do the job permanently. Of the first few cases, more than half have been free of symptoms for many months now.

Alcohol has been widely used as a nerve blocking agent and for many other medical and pharmaceutical applications. The new operation adds another to its varied functions as a medical tool.

CONTINUED

Sodium

styrene copolymers prepared with a dispersed sodium catalyst. Products based on these patents are now being marketed in the form of oils which can be converted to resinous materials at elevated temperatures. The recently announced U.S.I. Isosebacic* acid is made by still another reaction between butadiene and sodium.

*Trade Mark

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U.S.I.

Flaws on metal surfaces are being located by means of a penetrating red dye followed by a white developer which pulls the hidden penetrant to the surface, giving a red on white evidence of imperfections. **(No. 1100)**

Porous aluminum with uniformly ultra-fine pore size is now made by a unique powder metallurgy process. The material, with pore openings ranging from 5 to 150 microns, can be used as a filtration and gas dispersion medium. It is formed and welded readily. **(No. 1101)**

A new type heavy-gage polyethylene liner for steel containers is available for installing as an integral part of the container during production. Electronically sealed, with closed top, the liner makes possible liquid shipping at reduced costs. **(No. 1102)**

Odorless paints with excellent resistance to acids, alkalies and cleansers are now produced for food and other plants where odors hamper manufacture. They contain an odorless solvent specially distilled from petroleum. **(No. 1103)**

New products control static electricity during microscopic and analytical work and in the laboratory where flammable solvents are used. Small quantities are applied to synthetic textile clothing; and to surfaces in general. **(No. 1104)**

An acrylate-type elastomer has been developed with high resistance to petroleum and chemical hydraulic fluids and to ozone. It is recommended for hydraulic packings, hose liners, wire coatings and fabric impregnants. **(No. 1105)**

Two new radioactive carbon-14 compounds are now available commercially. They are cetyl-1-C-14 and stearyl-1-C-14 alcohols, useful for tagged detergent and metabolic studies. **(No. 1106)**

A thin protective coating for metal parts and assemblies has been developed to replace heavy viscous types. It provides maximum corrosion protection and moisture repellency, plus lubrication. **(No. 1107)**

A new liquid laundry rinse reduces static and repels dirt. When added to final rinse water, the positively charged liquid attached to negatively charged fibers, makes clothes soft, fluffy and dirt repellent. **(No. 1108)**

A new vinyl chloride extrusion compound contains a non-migratory type of plasticizer and a specially selected fungicide. It was developed specifically for the extrusion or molding of vinyl parts which must contact styrene. **(No. 1109)**

PRODUCTS OF U.S.I.

ALCOHOLS
Butanol (Normal-Butyl Alcohol)
Fusel Oil — Refined
Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof U. S. P.,
Absolute—200 Proof
Filmex*—special proprietary solvent
Solox*—proprietary solvent—regular and anhydrous

ETHERS
Ethyl Ether, U. S. P.
Ethyl Ether, Absolute—A.C.S.

ACETONE—A.C.S.

ANSOLS
Ansol* M
Ansol* PR

ACETIC ESTERS
Butyl Acetate
Ethyl Acetate—all grades
Normal-Propyl Acetate

OXALIC ESTERS
Diethyl Oxalate

OTHER ESTERS
Diatol*
Diethyl Carbonate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-chloroanilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloroanilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

FEED PRODUCTS
Calcium Pantothenate (Feed Grade)
Choline Chloride Products
Curbay B-G* 80
DL-Methionine (Feed Grade)
Niacin, U.S.P.
Riboflavin Concentrates
Special Liquid Curbay*
U.S.I. Vitamin B_{12} and Antibiotic Feed Supplements
Vacatone* 40
Vitamin A, D_3, and K_3 Products

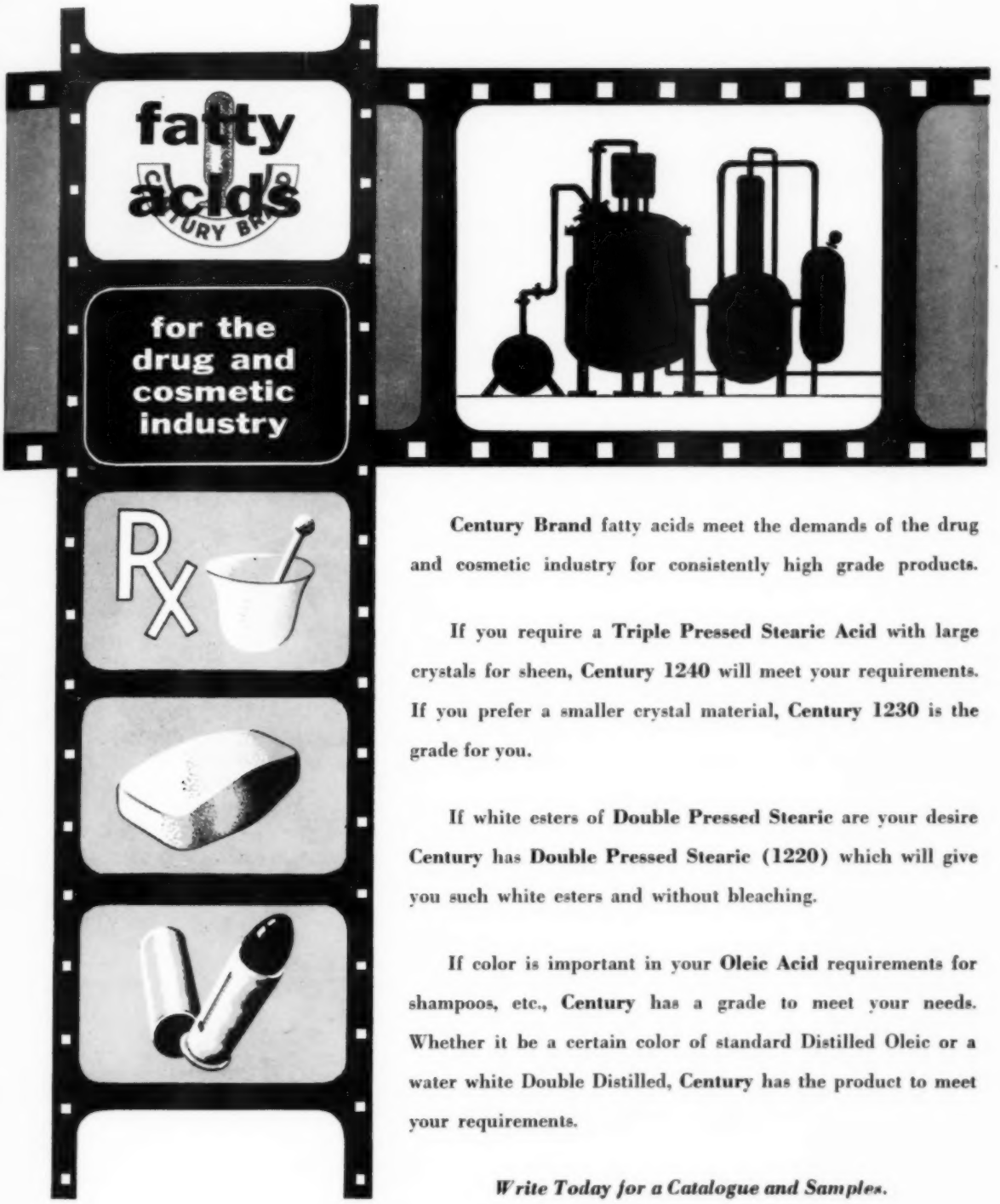
PLASTICS
Petrothene** Polyethylene Resins

OTHER PRODUCTS
Anhydrous Ammonia
Caustic Soda
Ethylene
Liquid Chlorine
Metallic Sodium
DL-Methionine (Pharm.)
N-Acetyl DL-Methionine
Nitrogen Solutions
Propionic Acid
Riboflavin U.S.P.
Sulfuric Acid
Urethan, U.S.P.

*Reg. U.S. Pat. Off.
**Reg. Pend.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers Products Corporation

99 PARK AVENUE, NEW YORK 16, N. Y. BRANCHES IN ALL PRINCIPAL CITIES



Century Brand fatty acids meet the demands of the drug and cosmetic industry for consistently high grade products.

If you require a **Triple Pressed Stearic Acid** with large crystals for sheen, **Century 1240** will meet your requirements. If you prefer a smaller crystal material, **Century 1230** is the grade for you.

If white esters of **Double Pressed Stearic** are your desire **Century** has **Double Pressed Stearic (1220)** which will give you such white esters and without bleaching.

If color is important in your **Oleic Acid** requirements for shampoos, etc., **Century** has a grade to meet your needs. Whether it be a certain color of standard Distilled Oleic or a water white Double Distilled, **Century** has the product to meet your requirements.

Write Today for a Catalogue and Samples.

HARCHEM DIVISION
Wallace & Tiernan, Inc.
Successors to W. C. Hardesty Co., Inc.

25 MAIN STREET, BELLEVILLE 9, NEW JERSEY
Factory: DOVER, OHIO
In Canada: W. C. Hardesty Co. of Canada Ltd., Toronto

Nothing Compares with

Astrotone® *Br*

A macr°-cyclic single chemical similar to the musk-like materials of natural origin.

ASTROTONE BR recalls the odor of musk tonquin, out without the heavy, depressing animal by-notes which are present in material musk.

ASTROTONE BR has the following properties:
Boiling Point: 125°C. at 1mm.
Freezing Range: −5.0° to −7.0°C.
Specific Gravity: 1.044 to 1.0455 at 20°C.

At room temperature, ASTROTONE BR is a colorless to light yellow viscous oil; below room temperature, clear ice-like crystals. It is soluble in all proportions in alcohol and other perfume materials.

Rigid manufacturing controls insure not only chemical purity but uniformity of odor. In the more than 15 years during which ASTROTONE BR has been on the market, the number of perfumers using it has increased considerably.

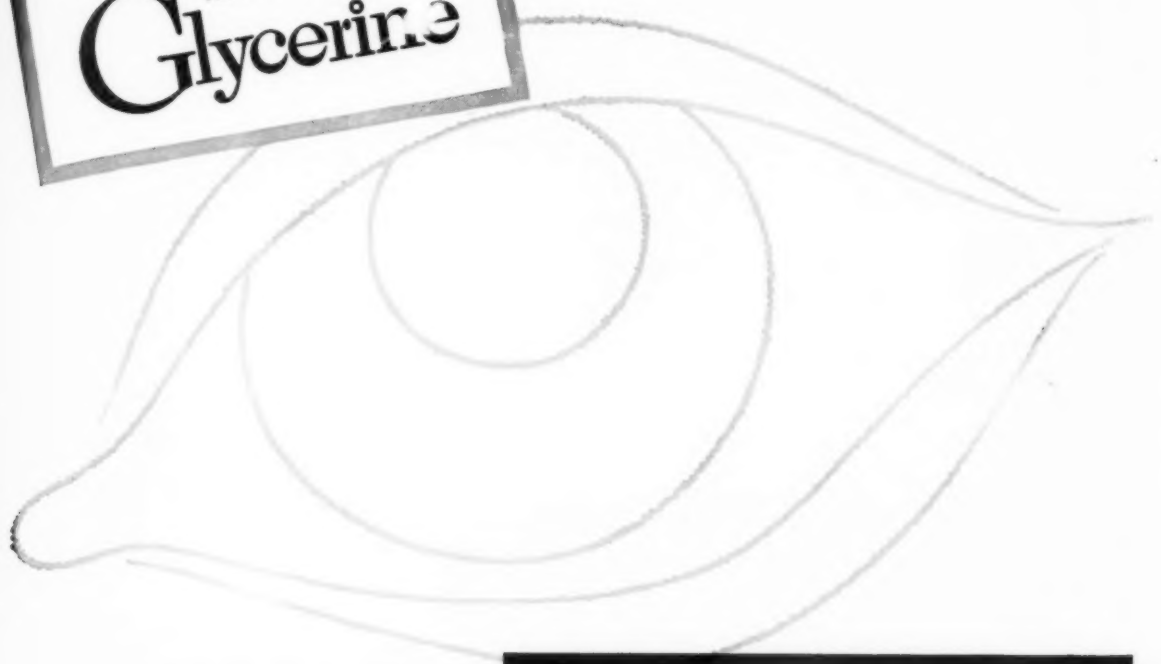
We invite your inquiries.

Rhodia INC.
230 Park Avenue, New York 17, N. Y
PLANT: PATERSON, N. J.

IN CANADA: Naugatuck Chemicals Div., Dominion Rubber Co., Ltd.
Montreal Toronto Winnipeg

THINGS TO COME...WITH

Glycerine



available whenever needed. **GRAFTS FOR FAILING EYES**

Imagine the tragedy in years past of corneal grafts spoiling after a few days storage—leaving none available when needed for surgery.

The future is more promising. Even stockpiling is a possibility, because scientists have found a way to preserve grafting material indefinitely, without affecting sight-restoring powers.

The new technique, now being experimentally used in hospitals, relies on subzero temperatures—and saline solutions of *Glycerine*.

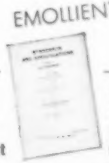
In medicine and pharmaceuticals, as well as many other fields, Glycerine's unique balance of properties continues to open new doors to progress. For tomorrow's surge of new specialties . . . in formulations and reactions yet unknown. *Nothing takes the place of Glycerine.*

This balanced group of properties keeps **Glycerine's** usefulness growing

HYGROSCOPICITY • STABILITY • SOLVENT POWER • VISCOSITY • NONVOLATILITY • NONTOXICITY • TASTE • MW/HYDROXYL RATIO • HUMECTANT • CARRIER • SOLVENT • LUBRICANT • SOFTENER • EMOLLIENT • ANTI-FREEZE • ALKYD BASE •

☑ CHECK AND SEND FOR TECHNICAL DATA

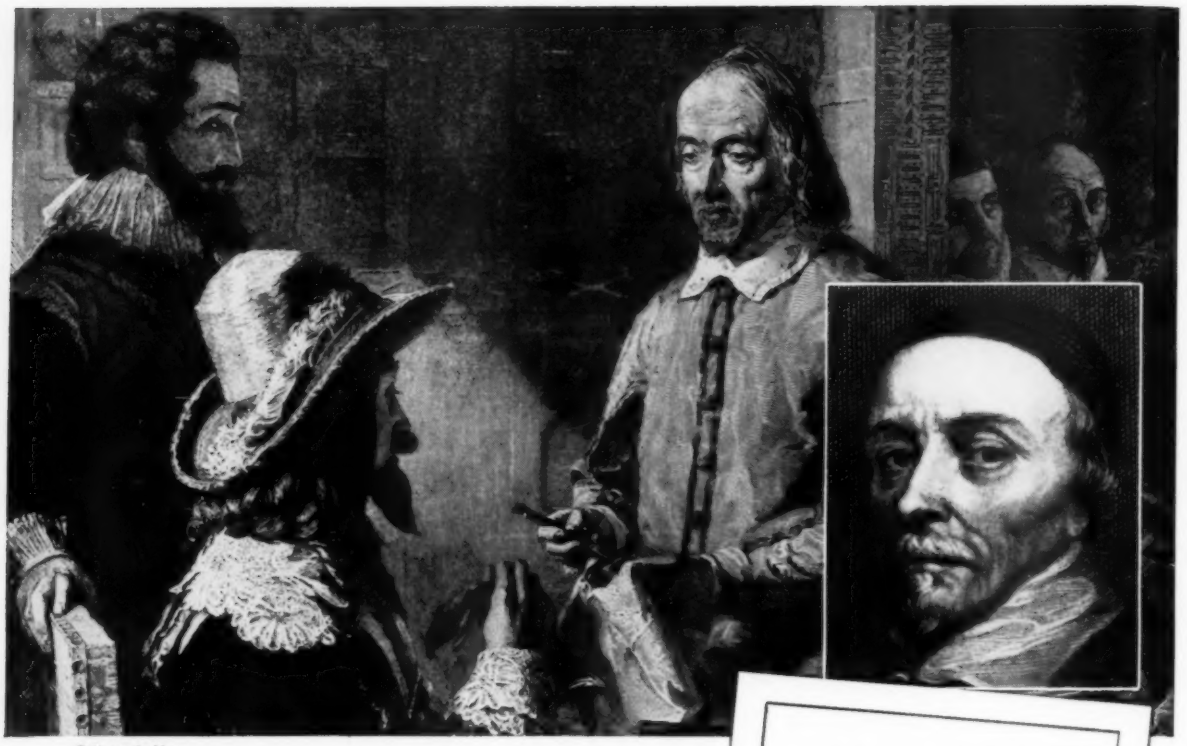
☐ 20-page booklet on Glycerine for product conditioning



☐ 12-page booklet on Glycerine standards and specifications

☐ 16-page booklet on Glycerine properties and applications

For your free copy of any or all of these booklets write: **GLYCERINE PRODUCERS' ASSOCIATION** • 295 Madison Ave., New York 17, N. Y.



Bettman Archive

WILLIAM HARVEY (1578–1657). English physician and anatomist, discoverer of circulation of the blood. The character and value of his discovery was tremendous in view of the ignorance and strangely accepted theories on the subject. Illustration shows Harvey discussing his discovery before Charles II of England.

KNOWN BY REPUTATION

COLUMBIA-SOUTHERN

SODIUM BICARBONATE

U. S. P.

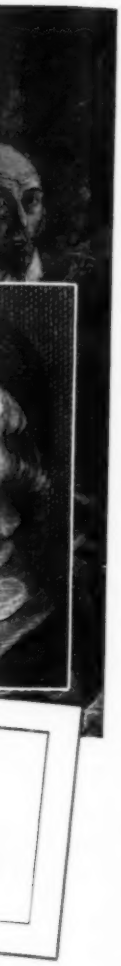
Made to highest standards, Columbia-Southern Sodium Bicarbonate meets your most precise needs for compounding or repackaging. It is noted for its purity, whiteness and uniform screen size. Produced in powdered or granular form. Specify Columbia-Southern Bicarbonate U.S.P. . . . known by reputation.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY

EXECUTIVE OFFICES: • ONE GATEWAY CENTER, PITTSBURGH 22, PENNSYLVANIA

DISTRICT OFFICES: BOSTON • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • HOUSTON • MINNEAPOLIS • NEW ORLEANS NEW YORK • PHILADELPHIA • PITTSBURGH • ST. LOUIS • SAN FRANCISCO



Emulsifiers

For ease of use — For dependable results — For solving difficult problems

Tegacid.... Glyceryl Monostearate — Acid Emulsifying. For anti-perspirant—deodorant creams, lotions and ointments—all greaseless, medicated formulations. If you don't yet know about TEGACID, write for Complete technical data and formulae.

Tegin..... Glyceryl Monostearate—Self Emulsifying. For neutral greaseless creams, lotions, ointments, suntan creams.

Tegin P.... Propylene Glycol Monostearate—Self Emulsifying. For greaseless creams—brushless shave, foundation, suntan: lotions—foundation, suntan, cosmetic stockings: ointments.

Tegin 515.. Glyceryl Monostearate—Non Self-Emulsifying. Used in conjunction with auxiliary emulsifiers.

Lanolin Absorption Bases

Protegin X ..... Iso-lan

For Creams, Lotions, and Ointments

PRESERVATIVES

Esters of Parahydroxybenzoic Acid

TEGOSEPT M TEGOSEPT E TEGOSEPT P
BUTYL TEGOSEPT BENZYL TEGOSEPT

ANTIOXIDANTS

PROPYL GALLATE ETHYL GALLATE

Inhibit Rancidity, Preserve Flavor in Edible Fats

Complete Technical Data • Formulae • Available on Request

GOLDSCHMIDT

CHEMICAL CORPORATION

153 Waverly Place, New York 14, N. Y.

SALES REPRESENTATIVES

CHICAGO • LOS ANGELES • ST. LOUIS • MONTREAL • TORONTO

ALWAYS SPECIFY

STURGE...

PCC

PRECIPITATED CALCIUM CARBONATE U.S.P.

Quality PCC for Dentifrices—Sturge PCC forms stable dispersions in glycerine-water mixtures. Gives you a chemically inert controllable polishing agent without taste or grit.

Quality PCC for Pill & Tablet Coatings—Sturge gives you uniform texture and a high white color. It's neutral and free from taste.

Quality PCC for Powders—You get consistent covering powder and absorbancy, with proper slip and adhesiveness. And Sturge maintains delicate scents, cuts the risk of fading colors.

Quality PCC for Fillers—Sturge PCC has the best consistency and texture for extending or pigmenting your lipsticks, creams and skin preparations.

Since 1823, the producer, John & E. Sturge, Ltd., of Birmingham, England, has manufactured fine chemicals. Their experienced laboratories are available for studying any customer's problems. For a sample and further information, contact H. J. Baker & Bro.

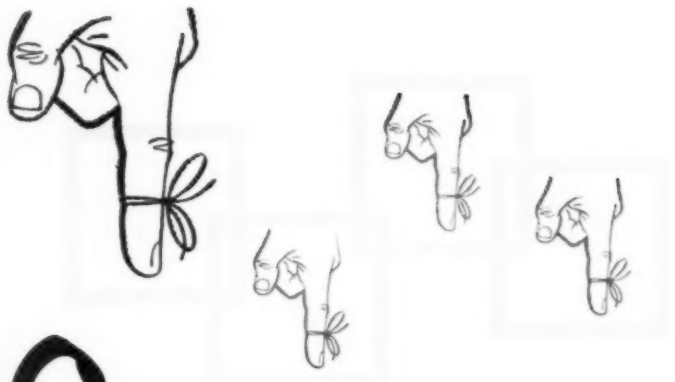
Exclusive Distributor:

H. J. BAKER & BRO.

established 1850

600 Fifth Avenue
New York 20, N. Y.

BRANCH OFFICES: ATLANTA • BALTIMORE • CHICAGO • SAVANNAH • TAMPA



Something worth remembering!

Your dependable source

of IPA is

SHELL CHEMICAL

When you order isopropyl alcohol from Shell Chemical, you gain in three important ways. You get guaranteed high-purity IPA, available in three grades, to meet your specifications. You get prompt delivery from strategically located bulk depots. And you can save money by taking advantage of bulk prices available through multi-product deliveries in compartment tank cars and trucks.

Write for technical literature and sales specifications.

SHELL CHEMICAL CORPORATION

CHEMICAL PARTNER OF INDUSTRY AND AGRICULTURE

380 Madison Avenue New York 17, New York

Atlanta • Boston • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco • St. Louis

IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited • Montreal • Toronto • Vancouver

New Enchantment

for your

Perfumes

Cosmetics

Soaps . . .

Let us help you with the
UNUSUAL
in NATURAL and AROMATIC MATERIALS

We are exclusive representatives for TOMBAREL FRERES, Grasse
Established 1857

• Absolute Supreme Flower Essences • Surfine Essential Oils • Resinoids

Tombarel Research and Tombarel's modern facilities can help give your product that new note that stimulates new business

Tombarel
PRODUCTS CORPORATION
725 BROADWAY • NEW YORK 3

IN CHICAGO: A. C. DRURY & CO. INC. • 219 EAST NORTH WATER STREET

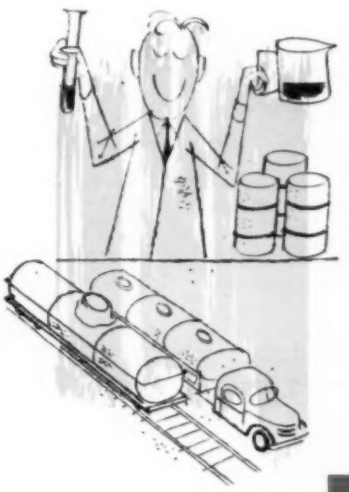
CARBIDE'S acetone

WHY YOU'LL WANT IT...

CARBIDE's acetone is high specification material, over 99.5% pure. Its purity, uniformity, and constant supply are assured because CARBIDE's acetone is produced synthetically. You should investigate the wide range of solvent uses for acetone. Write for the booklet, "Ketones" F-4767.

HOW YOU'LL WANT IT...

Delivery of CARBIDE's acetone can be made to suit your particular requirements in tank cars, drum carloads, tank trucks, truck loads, or single drums.



WHEN AND WHERE YOU'LL WANT IT...

Acetone is delivered from any of CARBIDE's forty-nine warehouses and eleven bulk stations. Their strategic locations save you time by giving you fast delivery, when and where you want it.

For Additional Information—

Just call or write any of CARBIDE's twenty-three sales offices for the latest prices or any other data you may need. In Canada: Carbide Chemicals Sales Company, Division of Union Carbide Canada Limited, Toronto.

CARBIDE AND CARBON CHEMICALS

Carbide and Carbon Chemicals Company
A Division of
Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.

THESE STEPAN PRODUCTS CAN HELP YOU FORMULATE...BETTER

*Cosmetics * Shampoos*

PRODUCT	TYPE	USES	ADVANTAGES
Stepanol WA (Paste)	Sodium lauryl sulfate	Liquid or paste creme shampoos. Emulsifier for use in cosmetics.	Outstanding foam and foam stability. Light stable color • bland odor. Superior detergency and wetting.
Stepanol WAQ (Heavy Liquid)	Sodium lauryl sulfate	Same as above, but for use where viscous liquid instead of paste is desired.	Same as above.
Stepanol WA Special (Low Viscosity Liquid)	Sodium lauryl sulfate	Liquid creme shampoos.	Same as above plus very low inorganic salt content.
Stepanol WAT (Clear Fluid Liquid)	Triethanolamine lauryl sulfate	Clear liquid shampoos. Foaming hand cleaners.	Low cloud point, outstanding color, foaming, detergency and wetting.
Stepanol WAT-S (Clear Fluid Liquid)	Triethanolamine salt of higher fatty alcohol sulfate	Clear liquid shampoos.	Same as above plus superior emulsification. Slightly darker and heavier than WAT.
Stepanol ME Dry (Dry White Powder)	High active sodium lauryl sulfate (U.S.P.)	Liquid and dry shampoos. Emulsifying agent for waxes and creams, dentifrices.	Excellent foaming, detergent and emulsifying properties. Soluble in water.
Stepanol AM (Heavy Liquid)	Ammonium lauryl sulfate	Liquid, creme or paste shampoos.	For use where low ph is required. Good detergency, wetting and foaming.
Stepanol MG (Light Amber Liquid)	Magnesium lauryl sulfate	Same as above.	Same as above, but gives better cloud point than sodium or ammonium salts.
T6-A (Light Amber Viscous Liquid)	Alkanolamide	Liquid bubble bath.	Excellent foam stabilizer in presence of soap.
T6-B (Light Amber Viscous Liquid)	Alkanolamide	Clear and creme shampoos.	Thickening agent. Auxiliary detergent, some emolliency.
LIPA (Light Ivory Color Flake)	Alkylolamide	Detergent hand cleaners. Creme shampoos.	100% active. Superb foam stabilizer. Auxiliary detergent. Nonionic in character.

Write for Complete Information

STEPAN CHEMICAL COMPANY

20 North Wacker Drive, Chicago 6, Illinois

Telephone: CEntral 6-5511

Dimethyl Sulfoxide • Fatty Alcohol Sulfates • Bulk Liquid Detergents • Sulfonated Oils • Amides • Foam Stabilizers • Alkylphenol Polyalkoxy Sulfates

spotlight on

crystalline structure
in stearic acid

how Emersol 132 Lily improved consistency and texture of medicinal cream

If your product's performance depends on its appearance, texture, and consistency, then this actual experience should prove helpful to you: *Case History No. 13-84 . . . Attracted by lower prices, this manufacturer of medicinal creams switched from Emersol 132 to a high-quality hydrogenated solid acid. Immediately, the non-crystalline structure of the latter product reflected in an objectionable change in the texture and consistency of the cream . . . substantially reducing its performance and sales-appeal. The switch back to crystalline Emersol 132 Lily eliminated all difficulties.* Likewise, the controlled crystalline composition of Emersol 132 will give your products the same desirable creaminess, texture and consistency time after time. This, coupled with outstanding resistance to rancidity, color stability and oxidation stability will make your products more appealing to customers, easier to sell. And since Emersol 132 costs no more than competitive triple-pressed grades, all these "extras" cost you nothing. Next time . . . buy Emersol 132 Lily.

Emery

Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

New York; Philadelphia; Lowell, Mass.; Chicago; San Francisco; Cleveland; Ecclestone Chemical Co., Detroit
Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles
Export: 2205 Carew Tower, Cincinnati 2, Ohio

ATLAS chem-memos

Chemicals Division, ATLAS POWDER COMPANY, WILMINGTON 99, DEL. • ATLAS POWDER COMPANY (CANADA), LTD., BRANTFORD, CAN.

SORBITOL, MANNITOL AND RELATED POLYOLS • EMULSIFIERS, SOLUBILIZERS

High stability W/O products readily made using Arlacel® C

Emulsion chemists, until recent years, tended to avoid formulation of water-in-oil (W/O) cosmetic and pharmaceutical products because of their high cost of manufacture and poor stability to temperature extremes. Today, largely because of Atlas pioneering in the development of really satisfactory W/O emulsifiers, leading manufacturers have introduced many outstanding W/O creams, lotions and hairdressings. These products take advantage of the inherent richness and emolliency of W/O products, and yet they are competitive in cost with O/W products, they have excellent stability, and a fine "finish" and "feel."

For this type of product, Arlacel C (sorbitan sesquioleate) is one of the most popular in the Atlas line of W/O type emulsifiers. It has high affinity for oil, combined with tremendous water-holding power. Using this material or its close relatives in the Arlacel family of emulsifiers, you can make W/O emollient creams, lotions and hair dressings that have oil content as high as 60 to 70 per cent . . . and which are stable to high temperatures as well as repeated freezing. The oil components may include mineral oil, petrolatum, lanolin and various waxes.

Formulas for W/O and many other types of products are given in the booklet, "A Guide to Cosmetic and Pharmaceutical Formulation with Atlas Products."

Write to Atlas for your copy.

Forward-looking formulators use ATLAS sorbitol

. . . like Westwood Pharmaceuticals, a division of Foster-Milburn Company of Buffalo, New York, manufacturers of "Lowila Cake." This product, a soap-free cleanser for "soap sensitive" skins, incorporates sorbitol as its humectant, making possible a firm cake which does not dry out and disintegrate, nor take on excessive moisture, which would cause waste of the cake.

What SORBO® will and won't do for cosmetic products

A humectant like SORBO (70% sorbitol solution), or any of the other commonly used polyols, has two main functions in cosmetic creams or lotions. First, it prevents water loss. And second, it lends cosmetic "feel" when the product is applied to the skin. The complete story on humectants, however, goes much farther. Here are some facts that our laboratory and field experience have uncovered about what various humectants can do.

Oil-in-water cold creams and emollient creams generally do not require any humectant at all . . . not even a superior one like SORBO.

Water-in-oil products do not lose water, thus need no humectant to stabilize moisture. They often contain a polyol to give cosmetic "feel" . . . and in this respect SORBO is superior. It cuts greasiness, and gives a cool, naturally "dry" feel on the skin.

Stearic acid soap-type creams form crust when exposed, regardless of the humectant used. SORBO, however, can make a big improvement in their moisture stability. As little as 2 to 3% of SORBO gives a lot of protection against moisture loss. Other humectants must be used at levels of up to 10% before any effective protection can be obtained.

Creams made with non-ionic emulsifiers are practically immune to crusting. In these products, SORBO retards moisture loss as effectively as other humectants. It has gained wide usage because of its advantageous price, ample supply, and its ability to produce a superior cosmetic feel.

You'll find complete laboratory data to substantiate the above in a 25-page paper, "Hygroscopic Agents and Their Use in Cosmetics." Write to Atlas for your copy.

News about

B. F. Goodrich Chemical *materials*

CARBOPOL 934

superior gelling agent for glycerin

COSMETIC formulations based on Carbopol/Glycerol offer many important advantages, including the following:

UNIQUE THICKENING EFFICIENCY—Greatly exceeds that of other materials at low concentration—1% Carbopol, after neutralization, turns glycerin (or water) into a clear, stable gel.

EXCELLENT STABILITY—Viscosity relatively unaffected by aging or temperature variation—resistant to bacterial and fungal degradation—good aging characteristics.

PURITY—The consistent high quality of Carbopol 934 results in non-irritating and non-allergenic formulations with USP Glycerin and water.

Carbopol 934 is supplied as a free flowing powder, readily dispersed in water or glycerin. For experimental samples and technical information, please write Dept. RD-4, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

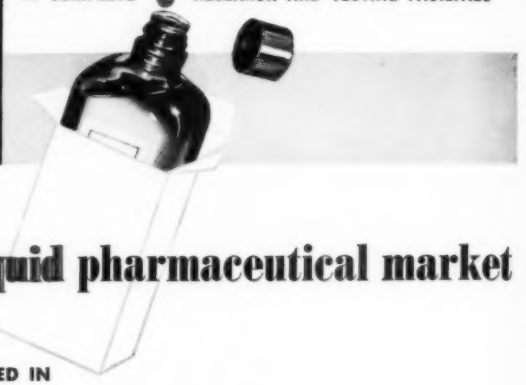
B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

Good-rite
CHEMICALS

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

the most

1. ECONOMICAL LIQUID FILLING MACHINERY AVAILABLE
2. UNLIMITED MANUFACTURING CAPACITY
3. FLEXIBILITY OF OPERATION
4. COMPLETE RESEARCH AND TESTING FACILITIES



Strong Cobb has the drop on the liquid pharmaceutical market

THE MANUFACTURING POLICY YOU WILL BE INTERESTED IN

You are invited to watch your product being tested and produced at **STRONG COBB**
anytime during the period of its manufacture... no appointment is necessary.....
come in and tell us you want to see your order being filled.
We invite you to discuss any idea or plan you have for a liquid product.
We offer you our **RESEARCH, MANUFACTURING, PACKAGING** facilities.

STRONG-COBB *Strong, Cobb & Company Inc.*

2654 LISBON ROAD, CLEVELAND 4, OHIO TELEPHONE: SWEETBRIAR 1-0600

In New York: 745 Fifth Avenue, New York 19, N. Y.
In Canada: Strong, Cobb of Canada, Ltd., 388 St. Paul Street, W. Montreal
American Chlorophyll Division, Lake Worth, Florida

PHARMACEUTICAL MANUFACTURERS TO THE TRADE - SINCE 1833

FLORANOL

(AN ESTER)

Typical Specifications:

PHYSICAL APPEARANCE:	Light yellow liquid.
ODOR TYPE:	Fruity Rose.
SOLUBILITY:	45 parts soluble in 100 parts of 70% Ethyl Alcohol.
STABILITY:	Stable in the presence of alkalies.
REFRACTIVE INDEX $n\frac{20}{D}$:	1.4941
SPECIFIC GRAVITY $\frac{20}{20}$:	1.0510
QUALITY:	Specifications carefully checked in our modern control laboratories.
SUGGESTED USES:	As an addition to Rose compounds — 3% to 5% to impart the fruity floral note found in all Roses. Invaluable in Rose compositions for creams, powders, lotions, etc. Moderate in price.

Other VERONA Rose ingredients manufactured from synthetic raw materials produced entirely within the U.S.A.:

ROSANOL · CUMIN KETONE · RESEDALIA

DIMETHYL OCTANOL SPECIAL · DIMETHYL OCTANYL ACETATE

DIMETHYL OCTANYL FORMATE

Sole representative in the United States for J. & E. Sozio, Grasse, France

Resinoides **Essential Oils** **Natural Absolutes**

Write for our complete list

PRODUCTS BUILD SALES FOR *Your* PRODUCTS

Aromatics Division

VERONA CHEMICAL COMPANY

Plant and Main Office: 26 Verona Avenue, Newark, N. J.

1210 Rosedale Avenue, Chicago, Ill.

Every cosmetic formulator should try this

Just drop us a note and ask for free samples of *Myvacet Distilled Acetylated Monoglycerides*. We'll send two types and enough background information to undertake some practical cosmetic formulation experiments.

Type 5-00, a white solid melting at 42-44 C, is flexible in thin films, easily emulsified, and lacks greasiness. *Type 9-40* is also non-greasy—a clear, colorless liquid completely miscible with alcohol-water mixtures of up to 20% water. Derived from and compatible with living tissue, these two nevertheless avoid the basic tendency of glyceride fats toward oxidative rancidity. The acetylation takes care of that, while our unique molecular distillation confers uniformity and purity.

Try "Myvacet" in baby oil. See how much lanolin goes into the mineral oil without clouding.

Try it in lipstick. Let it replace castor oil and see it improve fracture resistance and lessen the greasy feeling.

Try it in hair dressings. See whether it introduces less greasiness and staining tendency than castor oil.

Try it in alcoholic lotions. See if it won't provide the same lubrication as isopropyl myristate or isopropyl palmitate and yet leave no greasy residue.

Try it in shampoo. See a liquid cream shampoo formula produce a cream paste shampoo when *Type 5-00* replaces glyceryl monostearate or a heavy liquid cream shampoo when *Type 9-40* is used.

Try it in powder foundations. See a more homogeneous paste than with isopropyl palmitate and a non-shiny film on the skin.

Myvacet Distilled Acetylated Monoglycerides are made by ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis • W. M. Gillies and Company, Los Angeles, Portland, and San Francisco • Charles Albert Smith Limited, Montreal and Toronto.

distillers of monoglycerides made from natural fats and oils

DPi

Also . . . vitamins A and E . . .
some 3500 Eastman Organic Chemicals
for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

for SMOOTHER, MILDER cosmetics...

investigate these

protein
fatty acid
condensates

MAYPON 4 C

An anionic sudsing agent, detergent, and emulsifier ideally suited for use in the production of...

Shampoos
Cold Wave Solutions
Liquid Bath Preparations
Cosmetic Creams

MAYPON 4 CT

An advanced development of Maypon 4C recommended for

Liquid Shampoos
Pressurized Shampoos
Cold Wave Solutions
Liquid Bath Preparations
Creams

Both Maypon 4C and Maypon 4CT satisfy the Draize-Woodward Eye Irritation Test in all concentrations.

MAYPON®

MAYWOOD CHEMICAL WORKS
MAYWOOD, NEW JERSEY
ESTABLISHED 1895

As you can see from this list, Cyanamid manufactures most of today's principal sulfonamides. All of them are offered in various forms; some (marked by asterisks) are also available as CALCOMITES®, a form ideal for suspension type formulations.

In addition to the convenience of having this single source for Sulfas, Cyanamid customers can count on truly experienced technical assistance and highly reliable service. So . . . whatever *your* Sulfa needs, why not make the leading supplier your supplier! Contact your nearby Cyanamid representative for details. Offices in Chicago, Cincinnati, Detroit, Philadelphia, Los Angeles, St. Louis, Montreal, Toronto.

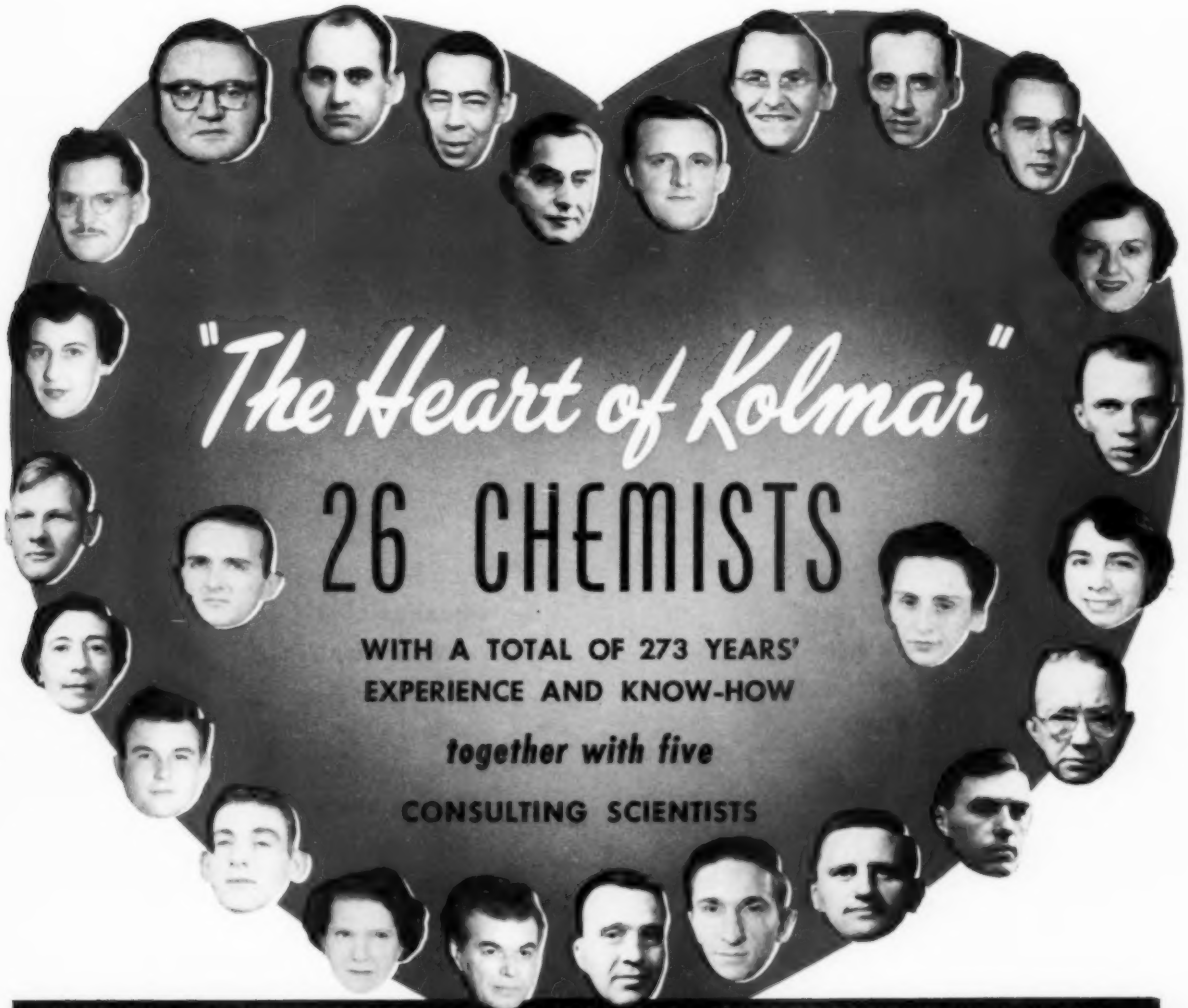
All signs point to *Cyanamid* for SULFAS

Cyanamid Fine Chemicals

AMERICAN *Cyanamid* COMPANY

FINE CHEMICALS DIVISION

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.


"The Heart of Kolmar"
26 CHEMISTS
WITH A TOTAL OF 273 YEARS' EXPERIENCE AND KNOW-HOW
together with five
CONSULTING SCIENTISTS

KOLMAR LEADERSHIP IS THE RESULT OF SPECIALIZED SKILL!

♥The "Heart of Kolmar" provides continuous creative research and thorough testing at every step of the manufacturing process . . .

♥It provides the control of quality from raw material to finished product . . .

♥It has given Kolmar product superiority and uniformity, combined with favorable price . . .

♥It has enabled Kolmar to develop many of the best known products in the cosmetic field . . .

♥It constantly works for the improvement of existing methods and formulae, and the development of new ones.

♥It has won Kolmar recognition *as America's Leader in Private Label Cosmetics.*

The customer's rights in the formula under which he operates is always respected by Kolmar. Consultation will not obligate you and there's a Kolmar Laboratory or Representative near to give you prompt service at all times.

•

Kolmar Products include Lipstick, Dry and Cream Rouge, Loose Face Powder, Cake Make-Up, Compact Powder, Foundation Creams, Liquid Make-Up, Eye Shadow, Mascara, Lotions, Colognes, Perfumes and other cosmetics.

•

REPRESENTATIVES: DOUGLAS HAGGERTY; THOMAS LA PRELLE, EASTERN SALES MANAGER, EMPIRE STATE BLDG., ROOM 605, NEW YORK, N. Y.; WARREN M. CURRY, 599 PLUM ST., N. W., ATLANTA, GA.; NORMAN L. KOLE, 505 NORTH LA SALLE ST., CHICAGO, ILL.; J. C. WEILER, 8003 FORSYTHE BLVD., ST. LOUIS 5, MO.; R. F. G. BYINGTON, 1260 N. WESTERN AVENUE, LOS ANGELES, CALIF.; RICHARD F. SPICKER, 419 W. FIFTH ST., CINCINNATI, OHIO; ELMER J. SCHWARTZ, 10016 EAST 35TH TERRACE, KANSAS CITY 3, MO.

Kolmar LABORATORIES

MILWAUKEE 2, WISCONSIN

PRIVATE LABEL COSMETICS EXCLUSIVELY

KOLMAR COSMETIC SPECIALTIES, INC. (complete package division) • KOLMAR INTERNATIONAL, INC. • WICKHEN PRODUCTS, INC.

PLANTS IN PORT JERVIS, NEW YORK; TWO PLANTS IN MILWAUKEE, WIS., AND ONE IN HOLLYWOOD, CALIF.
CANADA: KOLMAR WILCKENS, LTD., PLANT IN BARRIE, ONTARIO; OFFICE: 205 YONGE ST., TORONTO, ONT.
AUSTRALIA: KOLMAR (AUST.) PTY. LIMITED, 494 KENT ST., SYDNEY; KOLMAR EUROPE: PARIS, FRANCE

By Far . . .

the largest number of Perfume and Fragrance advertisers ever to use one magazine are now telling their story in BEAUTY FASHION. Read BEAUTY FASHION each issue for the fascinating story these perfume advertisements tell.

See in BEAUTY FASHION:

Angelique, Inc.
Parfums Anjou
Elizabeth Arden Sales Corp.
Blanchard, Inc.
Hattie Carnegie
Caron Corporation
Carven Parfums
Ceil Chapman Parfums
Chanel, Inc.
Parfums Charbert, Inc.
Charles of the Ritz (Directoire)
Mary Chess
Colonia, Inc.
Corday, Inc.
Coty, Inc.
Jean d'Albret
Dana, Inc.
Christian Dior
D'Orsay Sales Corp.
Parfums Evyan Co.
Faberge, Inc.
Guerlain, Inc.
Herb Farm Shop, Ltd.
Houbigant, Inc.
Lancome Sales, Inc.
Lanvin
Lucien Lelong
Lentheric, Inc.
Parfums Marcy, Inc.
Maromay, Inc.
Miahati, Inc.
F. Millot, Inc.
Germaine Monteil
Jean Nate, Inc.
Renoir
Nina Ricci
Rigaud
Roger & Gallet, Inc.
Scandia Cosmetics Corp.
Parfums Schiaparelli, Inc.
Shulton, Inc.
Tuvache, Inc.
Les Parfums Worth

BEAUTY FASHION THE MAGAZINE OF PERSONAL SELLING

101 West 31st Street, New York 1, N.Y.

colors that rival nature

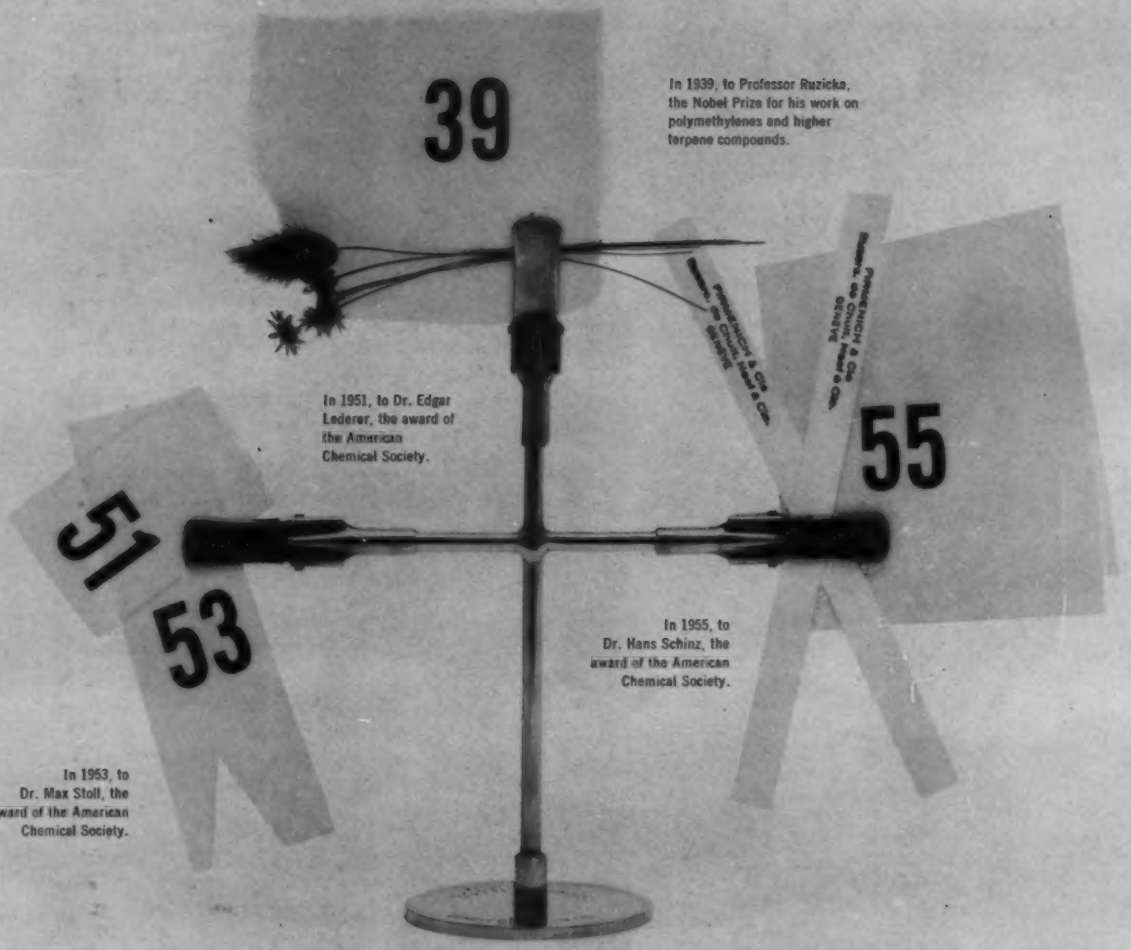
ATLAS CERTIFIED COLORS
INDUSTRY'S STANDARD FOR 104 YEARS

FIRST PRODUCERS OF CERTIFIED COLORS

KOHNSTAMM & COMPANY Inc.

ESTABLISHED 1851

89 PARK PLACE, NEW YORK 7 • 11-13 E. ILLINOIS ST., CHICAGO 11 • 2632 E. 54 ST., HUNTINGTON PK., CALIF.
BRANCHES IN OTHER PRINCIPAL CITIES OF THE U. S. A. AND THROUGHOUT THE WORLD


39
In 1939, to Professor Ruzicka, the Nobel Prize for his work on polymethylenes and higher terpene compounds.
In 1951, to Dr. Edgar Lederer, the award of the American Chemical Society.
55
51
53
In 1955, to Dr. Hans Schinz, the award of the American Chemical Society.
In 1953, to Dr. Max Stoll, the award of the American Chemical Society.

an award . . an award . . an award
and now another award
to a member of the research staff
of Firmenich

The harmonious coordination of industrial and scientific research, originally established by M. Philippe Chuit and Professor Ruzicka and carried forward by Dr. Max Stoll and his associates, has borne much fine fruit in the field of organic synthetics for perfumes and flavors. So these distinguished citations—the Nobel Prize and the awards of the American Chemical Society under the Fritzsche grant—bear witness. So does the increasing preference for Firmenich products as it is expressed by customers throughout the world.

FIRMENICH & CIE
SUCCESSEURS DE
CHUIT, NAEF & CIE
GENEVE

FIRMENICH INC.
250 WEST 18TH ST. NEW YORK 11

CHICAGO OFFICE: 612 NORTH MICHIGAN AVENUE · FIRMENICH OF CANADA, LIMITED · 348 WALLACE AVENUE, TORONTO · GENEVA · PARIS · LONDON

"Doctor, since you are far and away the greatest prescriber of shotgun mixtures we know of, you are the first to learn of our new pill."

Keeping Posted

Tetracycline Process Patent

Bristol Laboratories has obtained its first process patent on a "unique direct fermentation process for the production of tetracycline." The patent, granted July 5 to Alexander Gourevitch and Joseph Lein of the Bristol Research Division, and assigned to the company, contains 13 claims for "the production of tetracycline and substituted tetracyclines." Application date of the patent is March 3, 1954. The process is described as greatly increasing the yield of tetracycline-type antibiotics over other known fermentation processes.

As regards the suits pending between Bristol Laboratories and Chas. Pfizer & Co., the new patent does not alter that situation. Pfizer has a basic patent covering the product, tetracycline, itself of which Pfizer was declared to be the originator. A process to produce tetracycline does not give anyone the right to make and sell tetracycline if the Pfizer patent is valid. As a matter of fact, so far as production of tetracycline is concerned, Bristol has not infringed any process patents as they were licensed a while back by American Cyanamid Company to use the chlortetracycline (Aureomycin) production process as a means of manufacturing tetracycline. The question still remains to be settled whether or not the Pfizer patent is valid, and if it is valid, then Bristol is infringing it by the mere acts of producing and selling tetracycline.

Salk Vaccine and the F.D.&C. Act

While the Salk vaccine situation is quiescent right now and Mrs. Hobby has resigned as Secretary of Health, Education, and Welfare, there are those who are of the opinion that this industry has not heard the last of this unfortunate situation. There are many who believe that the difficulties attending the introduction of the polio vaccine will be heard from in Congress. It is thought that not only will the industry face the probability of legislation to provide funds for the free distribution of the vaccine to all children and pregnant women, but that a serious drive will take place in the next session of Congress to further tighten controls on all types of drugs, and not just on biologicals.

There can be no doubt but that the Salk vaccine experience demonstrated openly the dangers attendant upon the introduction of any new potent therapeutic agent. Without question, attempts will be made to draft legislation to try and lessen these dangers or to eliminate them altogether. The fact that the combined efforts of brains of the medical profession and of the pharmaceutical manufacturing industry cannot eliminate these dangers altogether, will not stop our legislators from attempting to enact legislation to accomplish the impossible. And when this attempt is made, it is going to take much time and effort on the part of the pharmaceutical manufacturing industry to keep the legislation within reasonable bounds. Furthermore, the efforts of the industry to do so will result in still more unfavorable publicity.

Fair Trade Acts Upheld

The highest courts of Pennsylvania and Wisconsin have upheld the Fair Trade Acts of their respective States. This makes a total of six States in which the Fair Trade Acts have been ruled valid since the enactment of the McGuire Act in 1952. The other four States are California, Delaware, New Jersey, and New York. The rulings in these States are in sharp contrast to the opposing positions taken by the top courts of Arkansas, Florida, Georgia, Michigan, and Nebraska.

The Pennsylvania ruling sustained a decision by the Dauphin County Court which granted General Electric a permanent injunction restraining Burche from violating G.E.'s fair trade minimum prices. In its decision, the Supreme Court said:

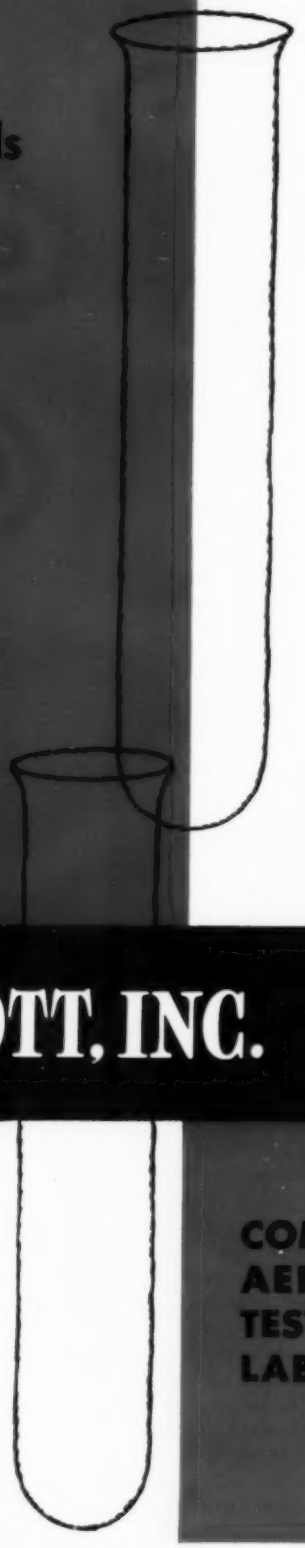
"The plaintiff (Burche) contends that this Act as applied to it is unconstitutional because it had not signed a minimum retail price agreement with the defendant. It must be conceded that such acts are held constitutional. . . .

"Nor is this Act an unlawful delegation of legislative power. In fact, it is not a delegation of power at all."

The Court denied the contention that there was a legal

for
Perfume Materials
that meet your
product's
requirements
and laboratory
service to assist
or supplement
your own–

Consult...



DODGE & OLCOTT, INC.

180 Varick Street • New York 14, N. Y.
Sales Offices in Principal Cities

D&O
ESTABLISHED 1798

Our 156th Year of Service

Perfume Raw Materials
Compounds
Aromatic Chemicals
Specialties
Industrial Odorants

COMPLETE
AEROSOL
TESTING
LABORATORY

requirement to reenact the Pennsylvania Fair Trade Act which had been passed before the Federal enabling law, the McGuire Act. The Court said: "The passage of the McGuire left the Pennsylvania Act in force as to nonsigners in *interstate* commerce."

The decision of the Supreme Court of Wisconsin reaffirmed a prior decision of that Court handed down in 1937 holding the nonsigner clause valid. The Court also ruled that Bulova Watch Company (although an out-of-state corporation), which was suing a retail jeweler, had the right, under the Wisconsin Fair Trade Act, to bring action against a Wisconsin retailer. The decision of the Supreme Court overruled an adverse decision of the Circuit Court of Waukesha, Wisconsin.

Medicine Claims Halted

Chester Kent, Inc., St. Paul, Minn., has been charged by the Federal Trade Commission with making false claims regarding Yo-Zyme and Vinol Tonic. Yo-Zyme will not, as claimed in advertising, (1) improve digestion and intestinal health, (2) establish body resistance to disease, nor (3) treat weak kidneys, gall bladder troubles, constipation, headaches, nervousness, lack of pep, ulcers, gas, stomach upsets, diarrhea, nausea, hemorrhoids, and migraine. In addition, says the Commission, the product will not protect vitamins, aid the absorption of alkaline materials, aid the digestion of other food by supplying protein-splitting enzymes, maintain lactic acid producing organisms in the intestines, promote a healthy intestinal flora, check the growth of putrefying bacteria or supplant noxious bacteria in the intestines.

With regard to claims made for Vinol Tonic, the Commission says that the preparation will not give energy to the young and old unless the lack of it is due to iron deficiency. Many pregnant women develop iron deficiency, says the Commission, unless they receive "vigorous iron therapy," but this condition will not develop in all cases.

Leg Treatment Claims

Jess M. Shipe, trading as Leg-Eze Company, Los Angeles, has stipulated with the Federal Trade Commission not to misrepresent product comprising his Leg-Eze Home Application Kit in treating various ailments of the leg. The leg-Eze Kit is a combination of drug preparations and devices advertised as a cure for leg sores, varicose ulcers, milk leg, or phlebitis (inflammation of the veins), strains, sprains, cramps, varicose veins, eczematous spots, and rash.

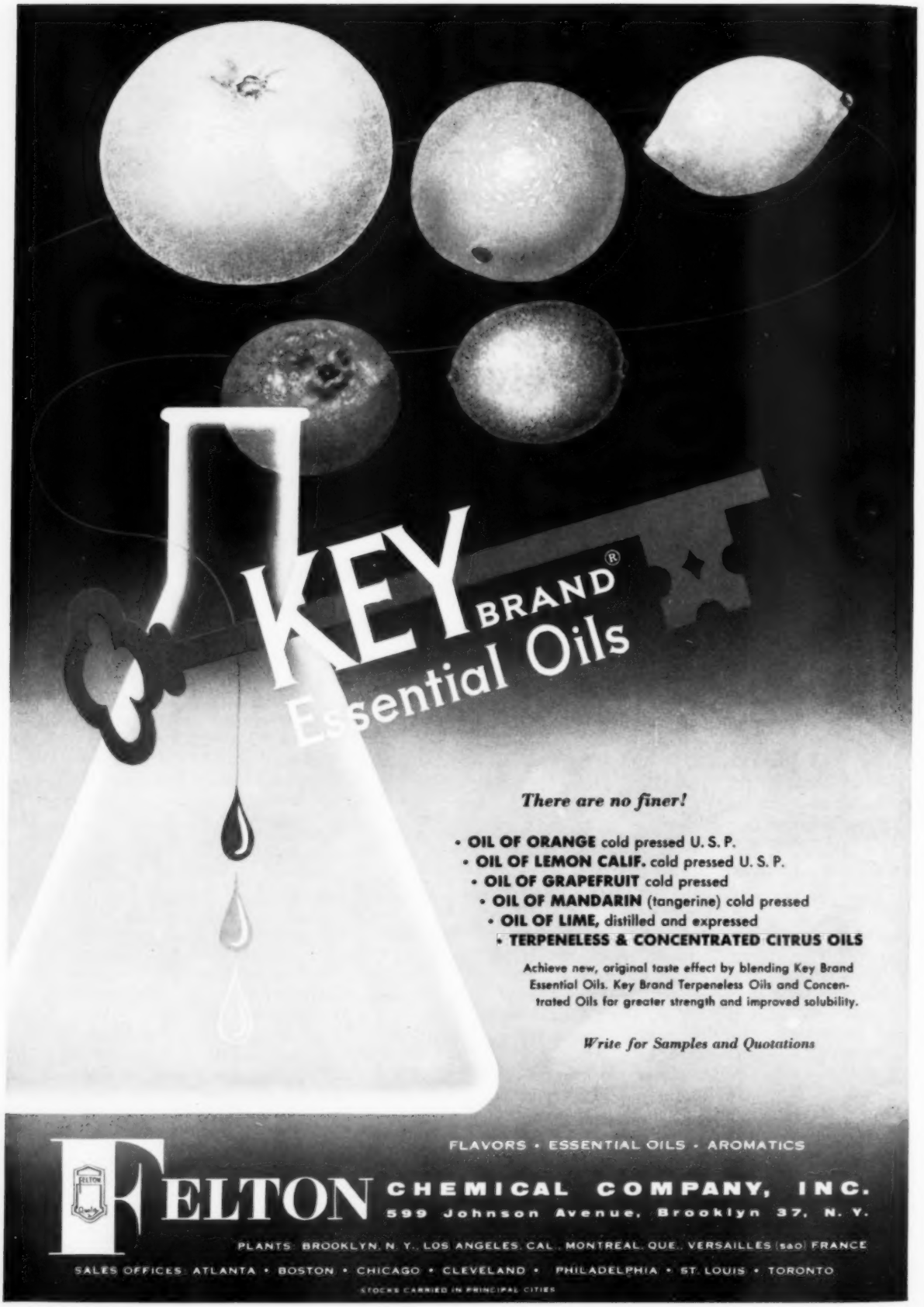
Mr. Shipe has agreed not to claim: (1) that the products will cure milk leg or phlebitis, (2) that they will prevent or cure varicose veins or have any beneficial effect on this condition except temporarily to reduce accumulations of blood in the veins and the accompanying swelling, or (3) that they will have any significant effect as a treatment for correcting leg sores, varicose ulcers, sprains, cramps, eczematous spots or rash other than that resulting from a combination of the product's effect in temporarily reducing accumulation of blood in the veins, in relieving itching and in affording a protective effect. He will also not represent that the products will relieve all pain, make the legs pain-free, afford relief in the majority of leg conditions or assure relief to the user.

Lederle Medical Faculty Awards

Lederle Laboratories Division, American Cyanamid Company has taken what is believed to be an entirely new step in an attempt to maintain high standards in medical education. This has been done by naming 19 outstanding medical school teachers and researchers as recipients of the 1955 Lederle Medical Faculty Awards. The awards, totaling $279,808 this year," are intended to supplement salaries or to help schools fill teaching positions; thereby helping to assure that promising medical men can afford to remain in teaching and research at the schools and universities in the preclinical departments."

The awards are administered by an independent committee composed of professors representing most of the preclinical sciences and drawn from medical schools throughout the United States. This year's committee included Dr. Windsor C. Cutting, San Francisco; Dr. Maxwell Finland, Boston; Dr. Robert F. Pitts, New York; Dr. George Sayers, Cleveland; Dr. Morris F. Shaffer, New Orleans; and Dr. Douglas H. Sprunt, Memphis. All grants are made for a period not exceeding three years, and no single grant can exceed $10,000 per year.

Winners of the 1955 awards are: Dr. Matthew N. Levy, Department of Physiology, Albany Medical College (three years—$21,462); Dr. James S. Dinning, Department of Biochemistry, University of Arkansas (three years—$7,875); Dr. Henry W. Elliott, Department of Pharmacology, University of California, San Francisco (two years—$6,000); Dr. Lloyd M. Kozloff, Department of Biochemistry, University of Chicago (three years—$19,077); Dr. David D. Thompson, Department of Physiology, Cornell University (two years—$20,000); Dr. William L. Cassel, Department of Microbiology, Hahnemann Medical College (three years—$10,091); Dr. Manfred L. Karnovsky, Department of Biological Chemistry, Harvard Medical School (three years—$25,462); Dr. Charles J. Imig, Department of Physiology, State University of Iowa (two years—$15,040); Dr. Andrew G. Smith, Department of Microbiology, University of Maryland (one year—$5,224); Dr. Wilbur H. Sawyer, Department of Physiology, New York University (three years—$6,337); Dr. Guido V. Marinetti, Department of Biochemistry, University of Rochester (two years—$14,437); Dr. Robert C. Stroud, Department of Physiology, Medical College of South Carolina (three years—$26,025); Dr. Albert Hand, Department of Pathology, University of Tennessee (one year—$9,500); Dr. Lorraine Friedman, Department of Microbiology, Tulane University (two years—$16,720); Dr. Marjorie A. Swanson, Department of Biochemistry, Bowman Gray School of Medicine (three years—$7,920); Dr. Kenneth P. Strickland, Department of Biochemistry, University of Western Ontario (three years—$18,550); Dr. Gordon R. McKinney, Department of Pharmacology, West Virginia University (two years—$9,368); Dr. Charles Yanofsky, Department of Microbiology, Western Reserve University (two years—$15,868); Dr. Joseph T. Velardo,


KEY BRAND®
Essential Oils
There are no finer!
• OIL OF ORANGE cold pressed U. S. P.
• OIL OF LEMON CALIF. cold pressed U. S. P.
• OIL OF GRAPEFRUIT cold pressed
• OIL OF MANDARIN (tangerine) cold pressed
• OIL OF LIME, distilled and expressed
• TERPENELESS & CONCENTRATED CITRUS OILS
Achieve new, original taste effect by blending Key Brand Essential Oils. Key Brand Terpeneless Oils and Concentrated Oils for greater strength and improved solubility.
Write for Samples and Quotations
FLAVORS • ESSENTIAL OILS • AROMATICS
FELTON CHEMICAL COMPANY, INC.
599 Johnson Avenue, Brooklyn 37, N. Y.
PLANTS: BROOKLYN, N. Y., LOS ANGELES, CAL., MONTREAL, QUE., VERSAILLES (sao) FRANCE
SALES OFFICES: ATLANTA • BOSTON • CHICAGO • CLEVELAND • PHILADELPHIA • ST. LOUIS • TORONTO
STOCKS CARRIED IN PRINCIPAL CITIES

Department of Anatomy, Yale University (three years—$21,852).

Newcomb Quits N. W. D. A.

E. Allen Newcomb has resigned as executive Secretary of the National Wholesale Druggists Association. In announcement by James E. Allen, chairman of the NWDA Board of Control, Mr. Newcomb left the Association as of July 13. Mr. Newcomb, with the Association for fourteen years, was formerly secretary of the Association, becoming executive secretary upon the death of his father, Dr. E. L. Newcomb, who was executive vice-president. Until a permanent secretary is appointed to succeed Mr. Newcomb, NWDA affairs will be under the direction of Dr. Albert B. Fisher Jr., who has been serving as staff director of research.

Horton Retires from F.T.C.

James A. Horton, for many years in charge of the legal investigational activities of the Federal Trade Commission, retired June 30 after 34 years of service. The Commission announcement said in part:

"Mr. Horton, who has achieved recognition as an authority on the work of the Commission, was appointed a staff attorney in 1921 and has served continuously since then. In 1930, he was named chairman of the Commission's Special Board of Investigation. A year later, he was appointed assistant chief examiner, and, in 1931, he became chief examiner and served in that position until 1946 when he was made director of the Bureau of Legal Investigation. Later, on June 1, 1950, he was appointed director of the Bureau of Industry Cooperation and has been serving as counsel to the Bureau of Consultation since July 1951.

"As Chief Examiner and Director of the Bureau of Legal Investigation, Mr. Horton supervised investigation of all cases involving specific violations of law, as well as general investigations which formed the basis for reports and legislative recommendations to the Congress."

After an extended vacation, Mr. Horton plans to return to Washington to engage in private law practice.

Polio Fight Not Over

"The fight against polio is not over," said Basil O'Connor, president of the National Foundation for Infantile Paralysis, last month as he announced thirty-one grants made by the Foundation at a total expenditure of $1,652,741. Mr. O'Connor mentioned these important projects to be followed under the thirty-one grants:

1. The search for a drug that may be useful in the prevention or treatment of polio.
2. The quest for a "kind of normal human or animal cell" that can be cultivated easily in the laboratory and used as a breeding place for the polio virus.

Emphasizing that the battle against polio is not over, Mr. O'Connor said that the development of the Salk vaccine and its evaluation as reported by Dr. Francis indicates that "we are at the beginning of the end." The largest grants are for Yale University and the Rancho Los Amigos Hospital in Hondo, California. Yale is receiving $237,680 to continue epidemiological and clinical studies regarding polio outbreaks in different parts of the world. The California hospital, a respiratory center, is receiving $154,090 to continue research on patient care and the development of patient-care teaching programs.

Cosmetic Chemists Seminar

Recognizing the current widespread interest in the adaption of atomic by-products to peacetime civilian use, the Second Annual Seminar of the Society of Cosmetic Chemists, to be held in New York September 15 and 16, will feature a symposium on the use of radioactive isotopes in cosmetic research, according to Dr. Kenneth L. Russell, president of the Society. In addition to this one symposium, two other half-day sessions will be given over to The Mechanism of Antiperspirant and Deodorant Activity, and Aerosols in the Cosmetic Industry, respectively.

Papers to be given on radioisotopes on the morning of September 15 are: 1. Principles and Techniques of Radioisotype Application, J. R. Carlin, Tracerlab Inc., Boston: 2. The Use of Radiotracers to Study Absorption by Hair, Howard J. White Jr., Associate Director of Research, Textile Research Institute, Princeton, N. J.: 3. Radioisotype Techniques in the Study of Percutaneous Absorption, Frederick D. Malkinson, M. D., University of Chicago, Department of Medicine; 4. The Adsorption of N-acyl sarcosines on Protein Materials, Manno F. Nelson and David Stewart, Colgate-Palmolive Co. Radioisotope Laboratory, Rutgers University, New Brunswick, N. J. The Moderator will be Charles E. Crompton, Assistant Director, Isotopes Division, U. S. Atomic Energy Commission, Oak Ridge, Tenn. Papers to be given on antiperspirant and deodorant activity on the afternoon of September 15 are: 1. The Clinical Significance of Disturbances in Sweating, Marion B. Sulzberger, M. D., Director of Dermatology, New York University-Bellevue Medical Center; 2. The Chemical and Bacteriological Aspects of Antiperspirants and Deodorants, Emil G. Klarmann, vice-president and Manager of Technical Services, Lehn & Fink, New York; 3. The Role of Apocrine Sweat in Production of Axillary Odor, Walter B. Shelley, M. D., University of Pennsylvania, Department of Dermatology, Philadelphia.

Papers to be given on aerosols in the cosmetic industry on the morning of September 16 are: 1. The Propellent in Cosmetic Aerosols, F. T. Reed, "Kenetic" Chemicals Division, E. I. du Pont de Nemours & Co.; 2. Formulating for Pressure, Morris J. Root, Technical Director, G. Barr & Co., Chicago; 3. Measurement of Particle Size Distribution in Aerosols, Morris A. Fischer, Armour Research Foundation of the Illinois Institute of Technology, Chicago; 4. Thermodynamics of Spray Formation, J. L. York, University of Michigan, Ann Arbor. Moderator of this session will be H. R. Shepherd, vice-president, Connecticut Chemical Research Corp., Bridgeport, Conn.

The afternoon of the second day will be available for plant trips. Trips are available to the following plants: Mennen, Morristown, N. J.; Shulton, Clifton, N. J.;

A FULL LINE!

Synthetic vitamins are a specialized line at N.Y.Q.—the Full Line Fine Chemical House, which has been an outstanding producer of chemicals for over 60 years.

You can have them by the pound or ton, with physical characteristics to meet the needs of your particular product, be it liquids, capsules or tablets – the usual N.Y.Q. quality and purity of course!

Acetyl-DL Methionine
Acid Ascorbic U.S.P.
Acid Ascorbic U.S.P. M.P. Grade
Acid Folic U.S.P.
Acid Nicotinic U.S.P.
Acid Nicotinic Mixture
(99% Acid Nicotinic U.S.P.
– 1% Tricalcium Phosphate U.S.P.)
Acid Nicotinic Amide U.S.P.
Acid Para Amino Benzoic U.S.P.
Alpha Tocopherol
Alpha Tocopherol Acetate
Betaine Hydrochloride
Biotin
Calcium Ascorbate
Calcium Pantothenate D.R.
Calcium Pantothenate (DL) Racemic Powder
Choline Salts
Inositol
Menadione U.S.P.
DL-Methionine
D-Panthenol
Pyridoxine Hydrochloride
Riboflavin U.S.P.
Riboflavin – 5′ Phosphate, Sodium
Sodium Ascorbate
Thiamine Hydrochloride U.S.P.
Thiamine Mononitrate
Dry Vitamin A Acetate
Dry Vitamin D_2
Dry Vitamin A Acetate and D_2 Mixtures
Vitamin B_{12} Crystalline U.S.P.
Vitamin B_{12} Crystalline U.S.P.—0.1% Trituration
Vitamin B_{12} Solids – 1000 Mcgm. • 500 Mcgm.
Vitamin B_{12} with Intrinsic Factor Concentrate U.S.P.
Vitamin A Palmitate and Acetate
Vitamin Feed Mixtures

NYQ®

THE FULL LINE FINE CHEMICAL HOUSE

The NEW YORK QUININE & CHEMICAL WORKS, Inc.

GENERAL OFFICES: 50 CHURCH STREET, NEW YORK 8, N.Y. 729 WEST DIVISION STREET, CHICAGO 10, ILL.

Bristol-Myers, Hillside, N. J.; Avon, Suffern, N. Y.; and Helena Rubinstein, Roslyn, Long Island.

All technical sessions are to be held at Barbison-Plaza Hotel, 101 W. 58 Street, New York. Lunch on the first day, a cocktail party and a dinner on the evening of the first day, and a lunch on the second day, all will be held at the New York Academy of Sciences Building, 2 East 63 Street.

The charge for the Seminar is $17.50 for members of the Society of Cosmetic Chemists, and $25 for non-members. Attendance is limited to 225 people and reservations should be sent to the Society at 2 East 63 Street, New York.

New and Non-Official Remedies

The 1955 edition of New and Non-Official Remedies, released by the American Medical Association last month, lists 42 new drugs. Fourteen drugs have been omitted from the 1955 edition, and eight have been deleted because they are no longer manufactured. The book lists the drugs accepted by the Council on Pharmacy and Chemistry of the A.M.A. Included in the new edition are the following drugs which were accepted by the Council during 1954 for inclusion in N.N.R.: Antivenin (Lactrodectus Mastans) (Reinstated); Acetyl Sulfisoxazole (Gantrisin Acetyl); Alphaprodine Hydrochloride (Nisentil Hydrochloride); Amodiaquin Hydrochloride (Camoquin Hydrochloride); Bacitracin-Neomycin (Bacimycin); Benoxinate Hydrochloride (Dorsacaine Hydrochloride); Calcium Aminosalicylate; Carbinoxamine Maleate (Clistin Maleate); Chlortetracycline Calcium (Aureomycin Calcium); Cyclimine Hydrochloride (Pagitane Hydrochloride); Dextro Amphetamine Sulfate (Dexedrine Sulfate); Dimethisoquin Hydrochloride (Quotane Hydrochloride); Diphemanil Methylsulfate (Prantal Methylsulfate); Erthromycin Ethyl Carbonate (Ilotycin Ethyl Carbonate); Erythromycin Glucoheptonate (Ilotycin Glucoheptonate); Erythromycin Lactobionate (Erthrocin Lactobionate); Estradiol Cyclopentylproprionate; Gallamine Triethiodide (Flaxedil Triethiodide); Hexylcaine Hydrochloride (Cyclaine Hydrochloride); Hydrabamine Penicillin G (Compocillin); Hyphylline (Neothylline); Iothiouracil Sodium (Itrumil Sodium); Lente Insulin (Lente Iletin); Lulutrin (Lutrexin); Merethoxylline Procaine (Cicurin Procaine); Oxytetracycline-Polymixin B (Terramycin Hydrochloride with Polymixin B Sulfate); Phenylbutazone (Butazolidin); Piperazine Citrate (Antepar Citrate, Multifuge Citrate); Piperazine Tartrate (Piperat Tartrate); Poliomyelitis Immune Globulin Human; Protoveratrines A and B Maleates (Provell Maleate); Salicylamide (Salamide); Sodium Levothyroxine (Synthroid Sodium); Sodium Radio-Iodide (I^{131}); Stanolone (Neodrol); Streptoducin (Combistrep, Distreptocin); Tetracycline (Tetracyn); Tetracycline Hydrochloride (Achromycin Hydrochloride, Tetracyn Hydrochloride); Tolazoline Hydrochloride (Priscoline Hydrochloride); Trichloroethylene Vibesate (Aeroplast); Viomycin Sulfate (Vinactane Sulfate, Viocin Sulfate).

The following fourteen drugs have been omitted because they are now considered sufficiently well known or because they are no longer considered useful: Aminophylline USP; Ascorbic Acid USP (Cebione, Cevex); Carbarsone USP; Carotene; Dihydromorphinone Hydrochloride USP (Dilauded Hydrochloride); Diperodon Hydrochloride (diothane Hydrochloride); Diperodon with Hydroxyquinoline Benzoate (Diothane with Oxyquinolate Benzoate); Diphtheria Toxoid, Alum Precipitated USP; Idohippurate Sodium (Hippuran); Iodopyracet (Iodopyracet Injection USP) (Diodrast); Phenylephrine Hydrochloride USP (Isophrin Hydrochloride, Neo-Synephrine Hydrochloride); Piperocaine Hydrochloride USP (Metacaine Hydrochloride); Sodium Iodomethamate USP (Neo-Iopax); Sodium Morrhuate (Sodium Morrhuate Injection USP).

The following eight drugs were omitted because their manufacture has been discontinued: Filbrin Foam; Hexethal Sodium (Ortal Sodium); Meralluride USP (Mercuhydrin); Mestilbol (Monemestrol); Prophenpyridamine (Trimeton); Sodium Ricinoleate (Soricin); Suramin Sodium (Naphuride Sodium); Urginin.

A.M.A. and Children's Aspirin

The A.M.A. Committee on Toxicology has come up with recommendations on to lessen the danger to children of available aspirin tablets. These recommendations are: 1. The label should state "Consult your physician on dosage for children under three years of age." 2. That individual tablets be wrapped in metal or plastic foil that cannot be easily removed by children, or that the container have a top which closes automatically. 3. That the number of tablets in each container of children's aspirin should be limited.

The committee points out that of 113 deaths in the U. S. known to have been caused by salicylate compounds in 1952, 86 occurred in children under five years of age. Forty-one of these were caused by aspirin.

N. W. D. A. Moves in New York

The National Wholesale Druggists Association moved their New York headquarters to the room 3106 of Lincoln Building, 60 East 42 Street, after 20 years in the McGraw-Hill Building at 330 West 42 Street. The move, which was made on July 18, was caused by the fact that McGraw-Hill is urgently in need of additional space in its own building. The Lincoln Building is conveniently located, being directly across 42 Street from the Grand Central Station.

Sterling Drug History

Sterling Drug, Inc. has issued a 38-page booklet entitled "The Sterling Story" which gives the history of the company from the establishment in 1900 of The Neuralgyline Company in Wheeling, West Virginia by W. E. Weiss, a pharmacist, and his partner, A. H. Diebold. These two men and three others who joined them as incorporators, raised $25,000 as capital for the new venture. The name Sterling was adopted in 1917, and came from Sterling Remedy Company, one of the businesses acquired by the firm. The big step forward for the firm came in 1918 when Sterling bought The Bayer Company, Inc., of New York from the Alien Property Custodian and thereby set up the Bayer Aspirin business, and also the Winthrop Chemical

Company to handle the ethical products, such as Luminol and Novacain which Sterling acquired in the purchase.

Thorazine and Butazolidine

We were interested in noting that the U. S. Tariff Commission report of imports of coal-tar products for 1954 (issued July 1, 1955) shows that imports of chloropromazine hydrochloride (Thorazin SKF), totaled 6,744 pounds last year. Since Thorazin is marketed in tablets of 10 and 25 milligrams, this amount would make at least 122,640,000 tablets, as this is the number of 25 milligram tablets that can be produced from 6,744 pounds.

Also noted in the same source is the fact that imports of Butazolidine totaled 20,505 pounds. This product is marketed in tablets of 100 and 200 milligrams. The total number of 100 milligram tablets that can be made from 20,505 pounds of material is 93,200,000.

LeBlanc Ads Cited by F.T.C.

The LeBlanc Medicine Co., Inc., Lafayette, La., and its officers, Dudley J. LeBlanc, Dudley J. LeBlanc Jr., and Onesta Marie Martin, have been charged by the Federal Trade Commission with false and misleading advertising of Kary-On, a vitamin mineral supplement. The complaint charges the company's advertisements mislead the public in that they fail to disclose material facts as to the limited therapeutic power of Kary-On. It cites specific advertising announcements including testimonials, in which many human ailments attributed to lack of Vitamin B_1, B_2, niacin or iron in the diet. These vitamins and food elements, although contained in Kary-On, may not be the cure for the symptoms and ailments for whose relief Kary-On is advertised, the complaint alleges.

The complaint charges that contrary to advertised claims of LeBlanc Medicine Co. and its officers, Kary-On is of no value in treating convulsions, rheumatism, erysipelas, cellulitis, typhoid fever, heart trouble, diabetes, ulcers, epilepsy and asthma.

Kary-On, the complaint continues, also is of no value in the treatment of another group of ailments, except in cases where the symptoms or conditions are caused by deficiencies in Vitamin B_1, B_2, niacin or iron. This group of ailments includes: indigestion, loss of appetite, chronic fatigue, insomnia, loss of strength to walk, neuritis, headache, constipation, accelerated aging process, and swollen knees.

Causes of these conditions, the complaint declares, "are so numerous that their mere existence is such an uncertain indication of a deficiency of Vitamin B_1, B_2, niacin or iron that there is no reasonable likelihood that in any individual case said symptoms and conditions will be benefited" by Kary-On.

The complaint, after citing testimonial letters praising Kary-On, charges they were deceptive because they did not "relate the symptoms and conditions described to a deficiency of Vitamin B_1, B_2, niacin or iron."

"Furthermore," the complaint continues, "neither the writers of these testimonial letters nor the respondents were competent to judge whether such symptoms and conditions * * * were the result of Vitamin B_1, B_2, niacin or iron deficiencies, or if so, whether Kary-On relieved or cured * * *" them.

Vitamin Foundation Grants

The National Vitamin Foundation has made 16 new grants to American universities and medical centers at a cost of $70,766. Effective July 1, the grants are to:

Dr. William S. Alexander, St. Louis University, St. Louis, $5,000 for studies of the effect of Vitamin B_{12} on experimental amuloidosis, and studies of the effect of experimental amyloidosis on nerve tissues and vitamin B_{12} as a protective agent.

Dr. Walter J. Bo, University of North Dakota, Grand Forks, North Dakota, $3,100 for a histochemical study of uterine metaplasia in the rat following vitamin A deficiency and studies of the relationship between hypervitamin A and estrogen on uterine epithelia.

Dr. Bacon F. Chow, The Johns Hopkins University, Baltimore, $3,000 for studies of vitamin B_{12} and aging.

Dr. George R. Cowgill, Yale University, New Haven, Conn., $4,500 for studies of the physiology and biochemistry of pantothenic acid deficiency.

Dr. Albert B. Eisenstein, Washington University, St. Louis, $4,500 for studies of the relationship of pantothenic acid to adrenocortical hormone secretion.

Dr. George J. Gabuzda, Western Reserve University, Cleveland, $5,000 for studies of the metabolism and interrelationship of folic acid, citrovorum factor and ascorbic acid.

Dr. Irving Graef, 4th Medical Division (New York University) Bellevue Hospital, New York, $4,000 for studies of the effect of pantothenic acid deficiency in various disease states.

Dr. G. Watson James III, Medical College of Virginia, Richmond, $5,000 for studies of vitamin B_{12} growth activity of *P. stipitata* in human leukemia.

Dr. B. Connor Johnson, University of Illinois, Urbana, Illinois, $4,950 for studies of vitamin B_{12} in animal nutrition.

Dr. Albert L. Lehninger, The Johns Hopkins University, Baltimore, $3,050 for studies of the enzymatic mechanism of ascorbic acid biosynthesis in animal tissues.

Dr. Herman C. Lichstein, University of Minnesota, Minneapolis, $6,600 for studies of the use of compounds structurally related to biotin for the study of the mechanism of action of biotin.

Dr. R. W. Luecke, Michigan State College, East Lansing, Michigan, $3,000 for studies of the quantitive requirements of the baby pig for certain vitamins.

Dr. A. Leonard Luhby, New York Medical College, New York, $3,600 for studies of the evaluation of urinary formamido-L-glutamic acid excretion as a clinical test for folic acid undernutrition.

Dr. O. Neal Miller, Tulane University of Louisiana New Orleans, $4,000 for studies on the metabolism of vitamin B_{12} in man with especial reference to interactions among serum proteins, intrinsic factor and the vitamin.

Dr. Theodore Zucker, Columbia University, New York, $5,170 for studies of pantothenic acid deficiency and the status of acetylcholine in internal tissue.

Glamorous Hands Around the World Call For the Foremost Name

DURLIN *for bulk nail enamel*

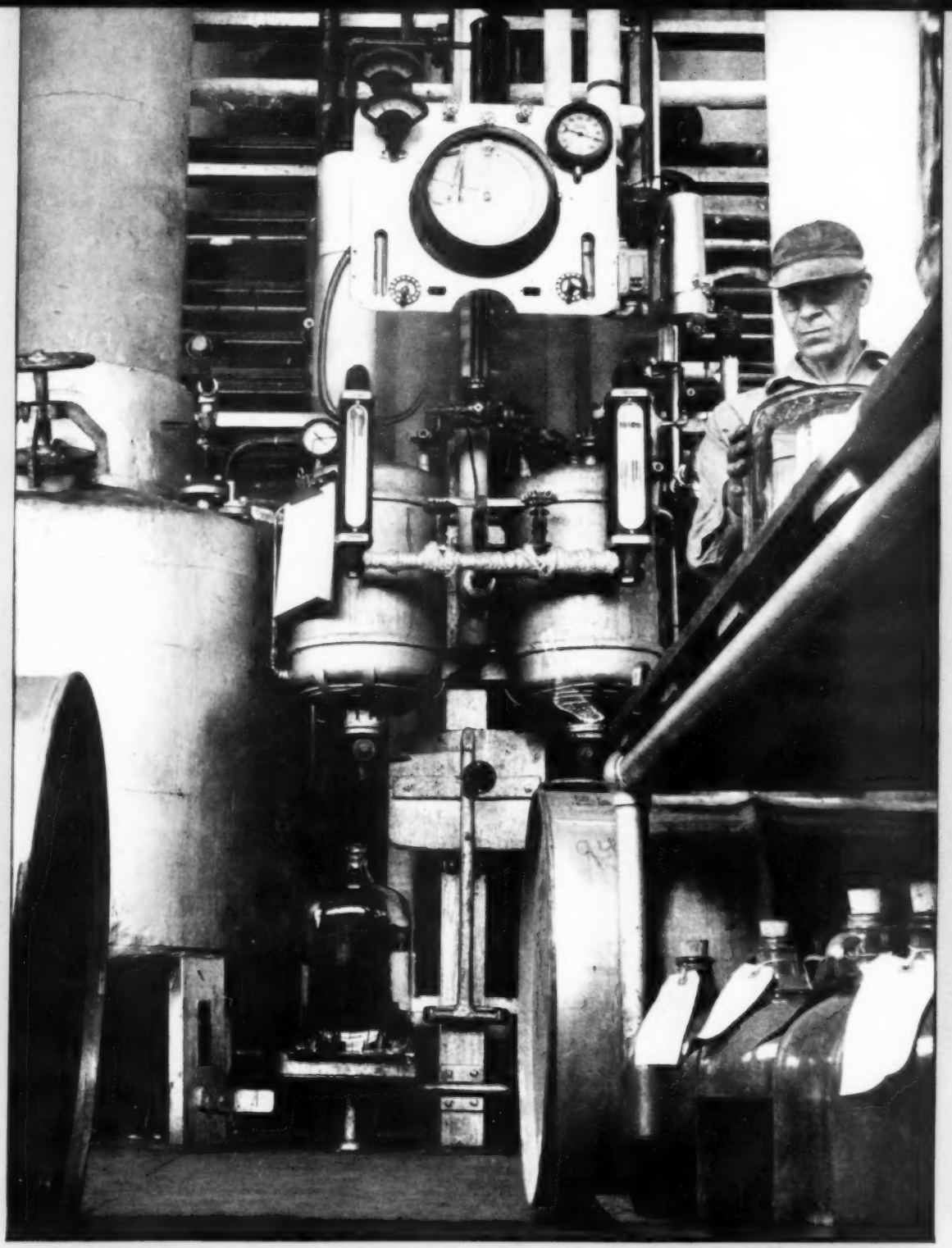
DURLIN is the Foremost Name in BULK NAIL ENAMEL catering to the leading class packagers the world over. Durlin is first in quality, first in fashion-right colors, first in technical and packaging service.

DURLIN CO.

744 Broad Street, Newark 2, N. J.

Cable Address: Durlin Newark Newjersey

glamorous hands *around the world . . .*



because of Givaudan's

POSITION AS PRIMARY PRODUCER...

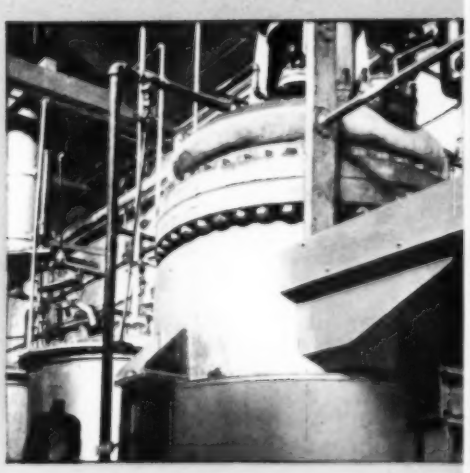
of virtually all important aromatic materials

and because of its experience as the

world's largest manufacturer of perfume chemicals,

you can be sure of consistently

high standards of purity and olfactory quality.



"Yours For Quality
In All Things Fragrant"

Givaudan-Delawanna, Inc.

330 West 42nd Street, New York 36, N. Y.

Branches: Philadelphia • Boston • Cincinnati • Chicago • Seattle • Los Angeles • Toronto

Mallinckrodt

mercurials

— active ingredient in many drugs

Mercury serves man well in filling important medical needs. For instance, *Mercuric Acetate* is now used as a reagent in the manufacture of organic diuretics. Mallinckrodt Mercuric Acetate for this purpose is carefully controlled to assay not less than 95.0% nor more than 98.0%.

Qualities found in Mallinckrodt mercury products are high purity and controlled uniformity.

Mercuric Oxide Yellow USP is used in antiseptic eye preparations.
Mercurous Chloride Mild NF (Calomel) is used as a cathartic and local antiseptic.
Mercuric Chloride USP, used as a disinfectant and in scalp preparations, comes in three grades: granular for tablets, powder for dry mixes, and crystals for solutions.

a reliable source is important...

Mallinckrodt, during the past 87 years, has been a chief source of raw materials for pharmaceutical manufacturers. Through experience, they have learned that Mallinckrodt supplies chemicals in consistently controlled physical form...always pure, always dependable.

Mallinckrodt® Since 1867

PRIME PRODUCER OF CHEMICALS FOR THE PHARMACEUTICAL INDUSTRY

Mallinckrodt Chemical Works
Mallinckrodt Street, St. Louis 7, Mo....72 Gold Street, New York 8, N. Y.
Chicago • Cincinnati • Cleveland • Los Angeles • Philadelphia
San Francisco • Montreal • Toronto

Committee reports on FDA

The Citizens Advisory Committee on the Food and Drug Administration, appointed February 3, 1955, by the Secretary of Health, Education, and Welfare, filed its report with Secretary Hobby on June 30. It is a most comprehensive and informative document.

Pointing out that the value of products distributed which are subject to FDA regulation is estimated at more than $60 billion annually, and that almost 100,000 retail establishments handling food, drugs, and cosmetics are subject to inspection and regulation by the FDA, the Committee emphasizes the following three major points:

1. The dimensions of the area of FDA activity have grown tremendously as a result of the 30 million growth in population since 1941, and because of the great increase in the number of manufacturers, processors, shippers, and retail outlets in regulated industries.

2. Technological developments in recent years in production of foods and drugs, and marked changes in consumer habits have made a significant impact on FDA responsibilities. For example, both the nature and the quantity of the work involved have been affected by such factors as the following, which are indicative of these technological advances:

The rapid and remarkable growth in knowledge of scientific phenomena has greatly increased the complexities of chemical formulae and compounds used in foods and drugs and therefore complicated the analyses which the FDA is required to make.

The development of new drugs such as antibiotics and antihistamines and the increase in the sale of others, such as endocrine products (900 per cent), and barbiturates (300 per cent), sulfonamides (800 per cent), and vitamins (about 500 per cent).

Almost half of the highly potent drugs available today were unknown 15 years ago.

The output of frozen foods has more than tripled in the last seven years and the growth of the

precooked food market has created new problems of regulation and safety.

The increase in the use of chemical additives in foods.

The average supermarket today stocks more than five times as many items as in 1939.

3. The rapid growth in the volume of the products shipped in interstate commerce, and the increased use of dangerous or habit-forming drugs and branded and precooked foods has caused Congress to make wide extensions of FDA regulatory jurisdiction. Four major amendments to the basic act have been made in recent years.

The major recommendations of the Committee are:

1. Funds, staff, and facilities be increased to meet FDA's essential responsibility of protecting the public health. Required expansion in personnel and facilities is between a three and four-fold one, within five to ten years. Such expansion should be progressively authorized by increased appropriations, as fast as it can be absorbed from an efficient organizational standpoint. The increased appropriation each year should be based on an evaluation of the record of the FDA in the past year and its need in the next year. In the first year, a budget increase of from 10 to 20 per cent over that for 1956 will be needed to initiate the five to ten-year expanded program on a constructive basis.

2. The FDA can do an effective job only if it enlarges and improves its educational program to develop a better understanding of the objectives and requirements of the food and drug laws through dissemination of better and more positive information to industry, certain professions and the public.

3. There is backlog of legal actions which has been allowed to drag out far too long. The FDA should not resort to legal action unnecessarily, but once legal action has been instituted, it should be prosecuted vigorously so that maximum results will be speedily obtained.

4. There should be better programming and planning and better internal management of FDA's affairs. There should be a better use of available data to measure performance and program effectiveness and the type of measurement data collected should be imimproved. The Headquarters staff should be strengthened.

Broadly speaking, FDA activity in drugs and devices includes approval of new drugs, and actions against adulterated and misbranded drugs and devices. The FDA technical divisions primarily concerned with drug programs are the Divisions of Medicine, Antibiotics, Pharmaceutical Chemistry, Pharmacology, Microbiology, Nutrition, and, to a slight extent, Cosmetics. In the fiscal year 1954, somewhat less than two-fifths of the total project time of the field service (exclusive of certification activities) was devoted to drugs and devices, against three-fifths for the food program. The FDA has eight major projects in the field of drugs and devices:

Vitamins
Drugs, human—nonprescription
Drugs, Human—prescription
Drugs, veterinary
Multiple drugs
Antibiotics (uncertified)
Devices
Improper sale of prescription legend drugs

Specialties activities with relation to these projects include:

The control of the illegal sales of prescription drugs.
The examination and approval of new drugs.
The certification of insulin and certain antibiotics.

The major problem of enforcement is actions taken against products which represent hazards to health, and these actions—which consume practically all the time available—have priority over other violations. Following this there is some activity in insanitation and decomposition violations, and a little in the category of economic cheats.

FDA estimates that of the 8,300 establishments that manufacture, ship, or store drugs or devices in substantial interstate commerce, reasonable coverage would require that a minimum of 4,150 be inspected every year. In the fiscal year 1954, however, only 1,614 establishments were inspected. The total number of inspections of these establishments totaled 2,416 (including reinspections).

Drug and device violations resulting in legal actions increased during 1954, although the enforcement staff dropped in number.

FDA activity as the result of Durham-Humphrey Amendment represents the largest part of the drug program as measured in terms of man-hours expended. FDA's program to control the illegal sale of restricted drugs has been primarily concerned with over-the-counter sales in retail drug outlets, which number about 55,000. In the fiscal year 1954 it constituted

almost a third of the entire drug and device program and was responsible for about three-fourths of the prosecutions. Although this could be handled by municipal and State authorities, some of the States lack appropriate legislation, and many States fail to enforce the laws which they do have. Controlling the illegal sale of prescription drugs has therefore become largely a Federal activity.

Stating that "Time is of much importance in passing on new drug applications, because of the advantages in terms of competition, prestige, capitalization of investment, sales volume, and the initial profits that accrue to the applicant upon the approval of the drug," the Committee observes that factors affecting the processing time of new drug applications are:

Small staffing and weakness in supervision in the Department of Medicine.

Variations in the volume and complexity of new drug applications.

The fact that additional staff cannot be quickly recruited or temporarily hired because of the technical nature of most of the work and the low salaries paid.

The policy of working on the oldest application first, regardless of its complexity.

The Committee conclusions and recommendations for drug and device field of FDA activity include:

1. Additional funds for modern laboratory equipment and for additional manpower to achieve adequate coverage of the industry and to support recommendations which follow.

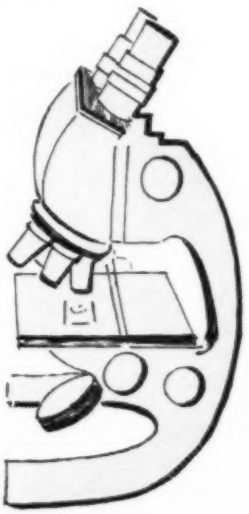
2. Drug and device program should be planned to include:

Further investigation of side-effects of dangerous drugs.

More attention to the illegal sales of dangerous drugs.

More extensive work on therapeutic devices making false claims of diagnostic and curative properties.

Acceleration and clarification of programs designed to bar imports of drugs and devices not in compliance with the standards of purity, quality and labeling required for domestic products.



Special attention to development of a program encouraging closer cooperation with industry and with State and local food and drug officials on a much more intensive and much broader basis than currently experienced.

The development of a program designed to provide close communication with and more complete information to industry and consumer groups as a means of promoting enforcement of the laws. Special attention should be given to the provision of more bulletins and statements of interpretation.

3. With respect to illegal sale of prescription drugs:

Greater care should be taken in the release of prescription drugs to over-the-counter status.

Doctors should be requested to note the *exact* number of times a prescription can be refilled on the prescription form.

4. A high priority should be given to reducing the new drug application backlog to reasonable size and to prevent its recurrence.

5. A task force consisting of a representative of the drug industry, an FDA technical advisor, an organization and management expert, and a representative of the Commissioner's Office should be assigned to review procedures and methods to speed the processing of new drug applications. There is evidence that procedures might be improved by:

Adoption of a clear and standard terminology.

Improvement of clerical procedures, including provision for immediate acknowledgment of physical receipt.

Greater efforts to give full publicity to new drug procedures in order to assure complete familiarity and full understanding of the requirements on the part of manufacturers.

(*Continued on page 254*)

the Doctor's psychology

Recently the Pharmaceutical Advertising Club assigned the Institute for Motivational Research to make a study of how pharmaceutical ads for physicians could be made more effective.

The vital importance to the drug industry, and to the country at large, of a harmonious relationship between doctors and manufacturers doesn't need a demonstration. It is also evident that the principal point of contact between the two parties is advertising and promotion of drugs, whether in publications or through the detail man or demonstrations. The knowledge of how doctors react to pharmaceutical ads will consequently shed sharp light on a complex and vital problem.

We were asked to concentrate our study among general practitioners. Our main goal was to probe for the main factors that could make pharmaceutical advertising more effective in *influencing the prescription motivation of physicians.*

As to our methods, the principal tool used in seeking insight into the physicians' true feelings toward drugs, drug company policies, and pharmaceutical advertising was the depth interview. The depth interview is an unstructured but guided conversation which encourages the respondent to ramble on and on. While broad areas of investigation are mapped out, there is no fixed sequence of inquiries. Because he does not feel obliged to come up with "correct answers" and because he is encouraged to focus on his impressions, images, and associations, the interviewee is more apt to bare his real attitudes and motivations than he is in the conventional question-and-answer survey.

In order to achieve multiple validation of many of our key hypotheses, we employed a variety of projective techniques. These utilize more indirect methods for studying motives and attitudes. Instead of being asked to report on their own feelings, respondents are called upon to project their feelings into a situation that is ambiguous or unstructured. Thus in the present study, for example, the doctor was shown *ROLE PLAYING CARTOONS* depicting physicians in various situations, and was asked to indicate what he would guess the *doctor in each of the situations* was thinking. Similarly he was asked to fill in *sentence completions* about pharmacists, detail men, drug companies, etc. with the first thought that came to mind.

We also employed free association tests to ads, as well as psychological content analysis and insight interviews. All in all we studied 204 physicians in the major geographical areas of the United States and belonging to various backgrounds and income groups.

To start with a conclusion, we have found that in order to make pharmaceutical ads more effective, a major reorientation is needed. The prescriber not the prescription has to be considered. In other words, it is the modern physician with his foibles, fears, hopes and insecurities who is the theme of each ad and of each communication rather than the scientific and medical qualities of the drug.

The physician tends to respond to the ad, to prefer the company, and to prescribe the drug, that reinforces rather than threatens his self-image, that helps to resolve rather than to stir up his conflict feelings about advertising and prescribing.

What are some of the major fears and hopes, suspicions and expectations on the part of the physicians in their relationships to drug companies?

First of all, and that is one of our most encouraging findings, doctors would like to consider drug companies as their allies and helpers. This is manifest in the fact that 86 per cent of the doctors glance over all or most of the advertising material they receive and that more than 60 per cent report that they open and look at every piece of advertising direct mail coming into their offices.

Beyond this, our depth interviews also revealed that

and selling

by Dr. Ernest Dichter
PRESIDENT, INSTITUTE FOR MOTIVATIONAL RESEARCH

80 per cent of the doctors consider an ideal drug company as their natural ally.

The good will and interest exist therefore among the doctors. The question is whether or not they feel that the companies do in effect play the role of trusted ally.

Here I have to report a number of negative findings. The truth of the matter is that a large proportion of today's physicians feel let down by the way they are treated by the companies. Let me quote just one figure. Whereas, as was stated above, four-fifths of the doctors say that an *ideal* company would be an ally, only 39 per cent of them see present drug companies in that light.

This feeling of disappointment is the end result of a number of objections and resentments, such as:

• *High prices.* As one of our respondents put it: "When I think that every doctor in the U. S. gets a piece of mail every day from those companies, they must spend an awful lot of money. I don't know how much. If they would use that money to reduce the cost of the products, I would like that much better."

Another one simply said:

"I can't help thinking of the price of the drugs as I look through my morning mail!"

• *Diminishing level of believability of ads.* Here is the angry comment of a middle-aged New Yorker:

"Every one says, 'Buy mine, it's the best; it's tested; it's proven,' about the same compound. Why, how can I listen to them? Why should I? And their claims about testing them. How many times am I told about a group of doctors testing a product and proving its claims and then six months later reading in the Journal about another group testing the same product and finding entirely different results."

• *The Drug Companies are getting too competitive.* A third and related negative element that affects the way that the doctor reads your ads is his feeling that the industry in the last decade has been getting "too competitive." Again, he sees this in very personal terms as companies come out with new products that are not really new. These "new" preparations simply mean "more names to remember." They add to his "confusion," by making rival claims that are difficult for him to differentiate.

• *The doctor sees himself as an "unpaid distributor."* As one of them expressed it:

"My main grievance in the use of proprietary medicine is that actually the physician is the middle man between the pharmaceutical companies and the public."

• *More than anything else, the physician resents that the companies go over his head.* It is his feeling that instead of communicating with the patient through him, the company goes directly to the patient, over his head, through the mass media. By doing this, the doctor feels, his ally has betrayed him.

This kind of feeling was graphically reflected in his spontaneous reactions to a projective cartoon depicting a patient wondering out loud about "the possibility of antibiotics being helpful." One of the response patterns that was most frequent included such complaints as:

"The patient has been reading too much in the newspapers."

"He's been reading too darn much."

"Damn those periodicals they read."

Our depth interviews reveal countless expressions of this resentment. A young general practitioner explosively commented about hearing of a new product from his stockbroker before he learned about it through the drug company:

"The one thing I really bitch about is that they release news to the N. Y. Times and three weeks later I hear about it from my patients or from the stock market. Take 'X' drug company, for example. This happened with a hormone product. I still haven't seen any publicity about it in any of the medical channels. But I heard about it from my stockbroker."

Doctor after doctor complained that the advance release of pharmaceutical information to the public resulted in patients coming to him at a point when he "knew very little about the drug . . . it puts many doctors on the spot."

In almost every case, the doctor tended to place the responsibility for this on the *pharmaceutical companies.*

Is it possible to overcome the animosity of the doctor toward some present advertising trends which make him feel that he has been let down by a potential ally?

We believe it is possible. Here are some of the practical recommendations we submitted in our study:

1. *Develop a partnership with the physician in service to the American people.* The hopes and expectations of the physician point to the possibility of a profitable and rewarding partnership in service to the American people with those companies that understand and respond to his feelings.

2. *Communicate with your ultimate purchaser, the patient, through the doctor rather than over his head.* In every possible case take the practitioner into your confidence about new products prior to informing the public.

3. *Promote your research activities as an attempt to equal the doctor's contribution to the partnership, as an*

(Continued on page 274)

CARBOPOL 934* in cosmetics

Recently a unique water-sensitive synthetic gum of superior gel-forming properties has been made available for use in cosmetics and pharmaceuticals. This gum is Carbopol 934.*

Carbopol 934 is a finely divided free-flowing acid polymer which readily disperses in water to yield an acid solution of low viscosity.[1] When an aqueous dispersion of this white, powdery material is neutralized with an appropriate alkaline substance (sodium carbonate, sodium hydroxide, triethanolamine, etc.), a clear, stable gel results.

Properties of Carbopol 934 and its gels which should be particularly interesting to those engaged in cosmetic and pharmaceutical formulation work are:

(1) A high degree of purity and product uniformity which should promote reproducibility in manufacturing processes.
(2) A high degree of thickening efficiency without appreciable loss of pourability.
(3) An extremely small change of viscosity with thermal change through the range of 10°-70° C.
(4) Compatibility with appreciable quantities of ethanol and glycerin.
(5) Resistance to degradation by bacterial and/or fungal attack.
(6) Stability of the gel over a wide pH range provided the proper neutralizer is used.
(7) A high degree of compatibility with many of those materials most frequently used in cosmetic and pharmaceutical formulations.

Carbopol 934 salts are inert both from the standpoint of acute toxicity and dermatology. It was impossible to establish an LD_{50} with guinea pigs or white rats. Dermatological patch tests with human skin (male and female) indicate no reaction for either 48 hours continuous exposure or 30-day intermittent exposure. Therefore, Carbopol 934 may be regarded as neither a primary irritant nor a sensitizer[1]. This, however, does not preclude the possibility of some allergic reactions, particularly with hypersensitive individuals. No such reactions have yet been reported, however.

In dealing with formulations based on Carbopol 934, the polymer should first be dispersed in water and then neutralized to form the final gel. For the initial dispersion, the polymer should be added slowly to water using moderate to high speed agitation. (A Waring blendor or one of similar type is recommended for this portion of the procedure). The amount of alkali needed for neutralization of the polymer to achieve the desired pH may be calculated directly from a chart appearing in reference No. 1. The choice of neutralizer logically depends on final usage of the product containing the mucilage, economic factors, etc. The alkali is generally added as an aqueous solution with slow speed agitation. This is necessary since high speed agitation would produce undesirable air entrapment in the viscous mucilage.

*A product of B. F. Goodrich Chemical Company, Cleveland, Ohio.

Pharmaceutical Uses

Formulas which have been previously suggested [2-5] and others to follow in this article have produced highly satisfactory preparations in the laboratory. It is well to suggest, however, that results can be materially affected by differences in the purity of the other materials being used in the formulation, rate of cooling, rate and manner of addition of other constituents, humidity, and other variable factors. Realizing the importance of these considerations, these formulae should be regarded only as guides for further investigations by others interested in this field.

Formulae for typical pharmaceutical preparations including creams, ointments and ointment bases, lotions, suspensions and emulsions have been presented elsewhere[2-4].

Swafford and Nobles[2] demonstrated that calamine and neocalamine lotions, prepared with the use of Carbopol 934 as the suspending agent, poured easily, spread smoothly, dried quickly and had a slow rate of sedimentation. These lotions did not tend to cake or pack to excess on standing. In addition, these workers prepared a palatable kaolin-pectin suspension that did not cake appreciably within 60 days.

Streeter, Caver and Nobles[3] incorporated 14 commonly prescribed dermatological agents in a cream or ointment base prepared from Carbopol 934. These agents included ammoniated mercury, aureomycin, benzoic and salicylic acids, boric acid, chrysarobin, coal tar, ethyl aminobenzoate, ichthammol, iodine, penicillin, sulfathiazole, and sulfur. These creams and ointments were smooth, homogenous, stable and resistant to any tendency toward rancidification. These preparations possess many of the combined attributes of absorption and washable bases. They are easy to apply to the skin and, once applied, are not very noticeable on the skin. They do not have the greasy appearance of petrolatum bases. The Carbopol 934 bases are stable over a fairly wide pH range and are nonirritating. The creams and ointments thus prepared are easily removed from the skin by washing; hence staining of clothing is reduced to a minimum. The absorption properties of such bases may be further enhanced by the inclusion of lanolin and similar materials with which these bases would be compatible.

GERMAINE MONTEIL

and pharmaceuticals

by W. Lewis Nobles,
ASSOCIATE PROFESSOR
PHARMACY AND PHARMACEUTICAL CHEMISTRY
UNIVERSITY OF MISSISSIPPI

The rates of diffusion of iodine, sulfathiazole and a mixture of benzoic and salicylic acids from the Carbopol 934 base were compared with suitable standards by *in vitro* agar diffusion tests. These materials, in general, diffused as readily from the Carbopol 934 bases as from the control standards used.

Since the publication dealing with dermatological vehicles[3], a slightly modified procedure has been utilized at times for convenience. It is as follows: A dispersion of a definite quantity of Carbopol 934 is made in a limited amount of water. Concurrently, a stock solution of the alkaline neutralizer is prepared. The exact number of milliequivalents to neutralize a specified amount of the acid polymer is contained in this solution per unit volume. Hence, by adding this neutralizer dropwise to the dispersion of Carbopol 934 simultaneously with an aqueous solution of the desired substance, smooth incorporation and gelling are obtained in the same operation. This particular procedure is applicable only to water soluble materials. However, water insoluble materials could be suspended in the polymer dispersion and then the neutralizer added dropwise to achieve somewhat the same effect.

A powdered ointment base may be prepared from Carbopol 934 in advance according to a procedure developed by Cohen[5] with slight modifications. At the time of use, water may be added and a smooth neutralized mucilage results. This may be accomplished in the following manner: Carbopol 934 is formed in a slurry with either methyl or ethyl alcohol by adding the dry powder to an alcoholic solution of sodium hydroxide. The sodium salt of Carbopol 934 is formed and, being alcohol insoluble, precipitates from solution. This precipitate can be separated from the solution, dried and powdered. It can then be dry blended with the desired ingredients and this blend then be slowly added or sprinkled on the surface of water being stirred with slow speed agitation. This will produce a smooth cream or ointment type of preparation.

Recently, Skauen and co-workers[4] have indicated that Carbopol 934 is a very worthwhile agent in the preparation of certain pharmaceutical emulsions and suspensions. In many cases the rate of sedimentation and tendency for cake formation in suspensions can be markedly improved by the utilization of Carbopol 934 as the suspending agent.

Cosmetic Uses

Some formulas for typical cosmetic preparations, illustrating the uses and advantages of Carbopol 934, are to be presented in the remainder of this article.

(Continued on page 280)

Cream Rinses

by Harry Hilfer

With the introduction of the home permanent wave and the associated problems of overprocessing that sometimes accompanied such a treatment of the hair, a need began to be felt for a method by which such overtreatment could be corrected. The present popularity of the cream hair rinses is due primarily to this need.

In the chemical reduction and subsequent oxidation of the keratin in the hair, these side effects are often unavoidable. It is difficult to manufacture a single solution which is capable of treating adequately all types of hair. Actually the manufacturer must aim his product for the majority classifications and those who do not readily fit in may have problems of overdrying or frizziness unless they take special precautions. The cream hair rinses, however, are capable of helping to correct these situations without too much trouble.

Most of the available products of this type depend upon the use of quaternary ammonium compounds for their activity. These compounds are substantive to proteins and enter into a peculiar physico-chemical relationship with them in which, though their substantive effect depends on an actual chemical combination with the hair amino acids, the identity of the hair does not change nor does the quaternary radical change. Actually the quaternary appears to be adsorbed to the hair shaft surface and thereby imparts a smooth feel—reducing the harsh feel of the overprocessed hair.

As previously stated one of the appealing factors in the use of the cream hair rinses is their ease of application. After the complete cycle of the home wave has been completed the hair is simply drenched with a tablespoonful of the concentrate as sold diluted in about eight ounces of water and then rinsed off with fresh water after being allowed to remain in contact with the hair for several minutes. The hair may then be set and dried.

The use of the cream hair rinse serves a dual purpose after the hair has been shampooed. If the hair has been excessively degreased the rinse, by its activity, will impart the desirable slip and manageability. In addition, because of its acidic pH, it will remove any calcium soap residue that may be adhering to the hair. Its use in conjunction with a shampoo has therefore greatly increased, particularly in hard water areas.

The choice of a proper quaternary ammonium compound is the principal problem in formulation of the hair rinse. These that perform best generally are the quaternaries containing a long chain in the molecule, the eighteen carbon chain being perhaps the most satisfactory. The reason for this seems to be related to the relative solubilities of the quaternary ammonium compounds, those of lower solubility being the better substantive agents. The drop in solubility of most types of quaternary ammonium compounds when the chain is increased from twelve to eighteen atoms is tremendous—much more than is the case with soaps. I can think of one type where the solubility of the 12 carbon compound is about 25 per cent and 18 carbon compound about 2.5 per cent. There is apparently a

COURTESY TUSSY COSMETIQUES

greater concentration of the more insoluble compound left adsorbed on the hair than is true of the lower molecular weight compound. This behavior resembles what would be expected if a substance were being treated in a separatory funnel containing two immiscible solvents in which its solubility differed. It seems perfectly possible that there is a distribution coefficient relationship in which the water and the hair may be regarded as solvents.

There are a large number of quaternary ammonium compounds available and the choice must be qualified by relative irritant properties. These compounds have a bad reputation insofar as their irritational potentials are concerned but it is my belief that they differ in this pattern as much as do the different types of soaps that could be made or for that matter as do detergents in general. In a broad sense the lower molecular weight compounds, which are usually the better bacteriostatic compounds, show a greater tendency in this direction than do those of higher molecular weight—which fits in nicely in the hair rinse application since the higher molecular weight compounds are the more desirable anyhow. However, there are marked differences in the irritational aspects of even the higher molecular weight compounds from compound to compound and this must also be checked.

In the actual formulation of the hair rinse as they are presently known on the market, the active quaternary content is about 2.5 per cent, and in addition to its primary function it also behaves as an emulsifying agent so that some lipids may be added to impart the desired opacity. The addition of some salt is sometimes indicated but merely to induce a better defined pearl since its function is that of a common ion. The additional amounts of lipids in addition to their use as opacifier enhances almost universally the feel imparted to the hair since they too seem to be adsorbed to the hair shaft—much more readily with the aid of the quaternary than through other media. This phenomenon therefore increases tremendously the scope of the formulator in his attempt to achieve any concentration of effects.

Viscosity effects in the final product may be controlled by salt additions or the addition of small amounts of compatible thickening agents—methyl cellulose for example is readily compatible with the quaternary ammonium compounds as are the higher fatty alcohols. Fatty acids as such are not, but the addition of small amounts (in the order of hundredths of a per cent) increase the viscosity but at the same time lower the pH. This is due to the formation of the quaternary stearate (if stearic acid is used) a highly insoluble product capable in small quantities of increasing the viscosity and the resultant release of the mineral acid whose anion is used to form the quaternary salt. The

(Continued on page 279)

Liquid Creams

by Joseph Kalish, Ph.D.

Continuing the reproduction of formulas offered by manufacturers as a guide to the proper utilization of their raw materials, we will discuss liquid creams containing substantial proportions of oils.

These liquid creams are useful in a greater variety of applications than are the preparations with less oil. They can serve as cleansing creams for removing make-up and the daily accumulation of grime; they are useful for skin lubrication and emollient action; and they can be pigment carriers for make-up, or vehicles to contain active ingredients such as sun screen agents.

When the cream contains a substantial proportion of a non-sticky, low viscosity hydrocarbon oil, like mineral oil, it is a quite effective cleansing agent. Mechanically, the oily cream applied to the face mixes with the oily secretions, dilutes them, and the whole can be readily removed by means of cleansing tissues. More than this, even when not directly formulated for the purpose by the addition of excess surface active agents, the aqueous phase will tend to emulsify the natural oils and dirt on the skin in the same manner as soap and water, and permit their easy removal. Although many manufacturers have from time to time emphasized the washing away of the liquid cream and the accompanying soil by means of water, the most popular final operation still seems to be mechanical removal with tissues. Theoretically, this may sometimes be advantageous, since the thin layer of oil necessarily left on the skin may act occlusively to keep natural moisture in the skin and retard dryness, while the water rinse may leave the skin without a protective oil coating.

With the proper selection of oil—mineral, vegetable or synthetic (including silicone)—the liquid cream can provide both occlusive and lubricating action so that apparent skin texture can be improved. Furthermore, by adding a finely ground pigment mixture, the cream, when applied in a thin layer, functions as a make-up base that adheres well to the skin and may give the desired "natural" finish.

Broadly, these liquid creams consist of three classes of components—the aqueous phase, the oil phase and the emulsifying system. The continuous phase in these oil-in-water preparations is water, of course, along other water-soluble components of the formula. These may include excess of surface active agent beyond that required to bring about emulsification, and humectants and gums. Humectants should be useful additives in that they may serve to bring moisture to the skin surface and keep it there. However, they cannot be added indiscriminately to otherwise well-balanced formulas, since they may have an important effect upon viscosity. This, incidentally, is also true of excessive amounts of surface active agents, which may adversely affect both viscosity and stability.

The oil phase consists of finely divided globules, usually made up of a mixture of the non-aqueous ingredients. These may include mineral oils, because of their generally good stability and the wide range of viscosities available, some silicone because of its virtually complete insolubility in the aqueous phase and adhesiveness, vegetable oils and lanolin and some of the synthetic oils and fats.

Continuing a theme which we have emphasized for many years, the emulsifier system should comprise a balanced mixture of water-soluble and oil-soluble surface active agents (hydrophilic-lipophilic balance) for best emulsion stability. Only rarely will this balance exist to a wholly satisfactory extent in a single compound, and it must be attained as a rule by the use of emulsifying mixtures. Very often this balance is reached more or less unconsciously, as in the use of enough alkali to neutralize only part of the fatty acid, the unsaponified excess providing a lipophilic component, or the use of lanolin or a fatty alcohol for the effect on the skin but incidental stabilizing effect on the emulsion.

COURTESY DERMETICS

The viscosity of the emulsion, an important consumer property, is affected by the oil content, but may be determined by the composition of the emulsification system used. Thus, in preparations containing the same proportion of oil, the emulsion will be a consistent cream in one formula and a much thinner fluid in another.

The pH of the composition, if the primary emulsifier is stable over a wide range, can be fixed approximately at a desired point, at neutrality or on the acid side.

Finally, stability of the emulsion will depend upon the formula and the processing. The use of a colloid mill or homogenizer will lead to preparations that are virtually unattainable otherwise. This equipment, properly used, will give smooth, stable emulsions in which individual oil globules are so small as to be visible only under the highest magnification of the microscope. As a rule, however, a specific formula should be devised for the homogenizer because considerably less emulsifier may be required.

Amerchol L-101[1] is a non-ionic emulsifier and penetrating agent; it is a liquid sterol extract containing cholesterol, its isomers and related sterols.

Amerchol BL[1] is a variation of Amerchol L-101 containing free cholesterol and cholesterol esters.

	Liquid Creams[1]		
	5E	6E	9E
Amerchol L-101	10.0	.....	.....
Amerchol BL	.....	.....	7.5
Lanolin	10.0	20.0	16.0
Mineral oil	34.0	36.0	38.00
Beeswax	1.0	.....	.....
Stearic acid	4.5	5.0	5.0
Pure glyceryl monostearate	.....	2.0	2.0
Glycerin	.....	5.0	5.0
Triethanolamine	0.5	1.1	1.1
Water	50.0	90.0	90.0

Melt together all of the fat soluble materials in one vessel and heat to 90° C. Dissolve the triethanolamine and glycerin in the water and heat to 90°. Add the water solution to the oil solution while stirring and stir to room temperature. Add perfume at 40°. Remix the batch after standing over night.

Arlacel 83[2] is sorbitan sesquioleate.

G1425 Lanolin derivative[2] is a polyoxyethylene sorbitol lanolin derivative.

Arlacel 20[2] is sorbitan monolaurate.

Tween 20[2] is polyoxyethylene sorbitan monolaurate.

(Continued on page 278)

Antibiotic Production Development

by John E. McKeen, D.Eng.
PRESIDENT, CHAS. PFIZER & CO. INC.

The world was changed in 1941 when England—with Hitler at her throat—took the first steps toward the conquest of another universe.

For what the British had learned about penicillin by then acted like a particle dropped into a supersaturated solution—it was the nucleus around which man's new conquest of the microscopic world crystallized.

In the years that followed 1941, this world too finally began to change and a new "strain" of science appeared—and a new industry.

But the first months of those years were months without victories. Laboratory victories are one thing, industrial victories quite another. In the laboratory, a yield slightly better than one part per million can indeed spell a victory; in industry, such a yield often means defeat for the production engineers.

It was to secure help in translating a laboratory victory into an industrial one that Florey and Heatley came here in the summer of 1941.

The first light of industrial victory broke at the end of 1941, when the U. S. Dept. of Agriculture's Northern Regional Research Laboratory at Peoria, Illinois, turned up a penicillin broth ten times as potent as that of the Oxford group. On a corn steep liquor diet the *Penicillium notatum* mold outdid itself. Exactly why we don't know, but this material that was a one-time waste greatly increases the antibiotic yield of many organisms now used as commercial producers.

The following spring, three companies—Merck, Squibb, and Pfizer—initiated the shallow-culture production of penicillin. But the shortage was still so acute in mid-1943—even with the entry of four additional companies into production—that the War Production Board placed penicillin on allocation and granted to its producers priorities second only to those of the Atomic Energy project.

Early in the summer of '43, however, the Peoria group discovered a strain of *Penicillium chrysogenum* and the potency went up to nearly 100 Oxford units per ml. Fleming's original culture had produced 2-4 units per ml.

Then, in August of that summer of '43, the deep tank fermentation method of producing penicillin went into operation. Biochemical engineering had designed gigantic fermentation tanks that would replace millions of small flasks; machines that would carry out micro laboratory techniques more surely than ten thousand laboratory technicians.

While it is true that antibiotics are made according to fermentation principles essentially the same as those of brewing, the practical problems are hardly comparable. Before the advent of the antibiotics, with the notable exceptions of Chaim Weizmann's acetone-producing clostridium and citric acid production, industry had actually had relatively little experience with controlled, sterile fermentation chemistry.

Weizmann's work was novel, its effect explosive. His

*Delivered before New York Academy of Medicine's Institute on Medical History, June 3, 1955.

clostridium broke Germany's ammunition monopoly in 1914—and changed the course of World War I. Subsequently, in 1923, Pfizer perfected a fermentation process which transformed ordinary molasses into pure citric acid. The opening of the first citric acid fermentation plant cut the price of citric acid from $1 a pound to 25 cents—and smashed an Italian monopoly.

To this fermentation base we later added submerged techniques. The fusion of these elements marked the beginning of biochemical engineering, a branch of chemical engineering that differs from its parent as biochemistry differs from chemistry. One deals with inanimate things, the other with life-cycles—life-cycles in which a new generation may appear every 15-20 minutes. One organism can become 17 million in 12 hours.

Biochemical engineering must grow and exploit, in sterile isolation, this whirlwind life whose natural habitat is a bog or a ditch or a pasture. It must mass-produce substances which are generated, along with a hodge-podge of other, unwanted substances, in micro-gamma quantities. It must incorporate biological fermentation reactions into the flow sheet of synthetic organic processes.

Synthetic organic processes had themselves only recently come out of "batch" production and into continuous flow, thanks largely to William H. Walker of MIT. Walker transplanted into the chemical industry the concepts of mass production which Henry Ford crystallized in Detroit, and in doing so, raised chemical processing from an art to a science. His work, blended with biochemical techniques, made it possible for our engineers to handle the problem of mass producing the antibiotics.

To handle the prima donna Penicillium under water, in a sense, and guarantee to each of her progeny a home, with the air, the temperature, the pH—the environment—for growth, required a feat of engineering ledgerdemain the like of which industry had never before known.

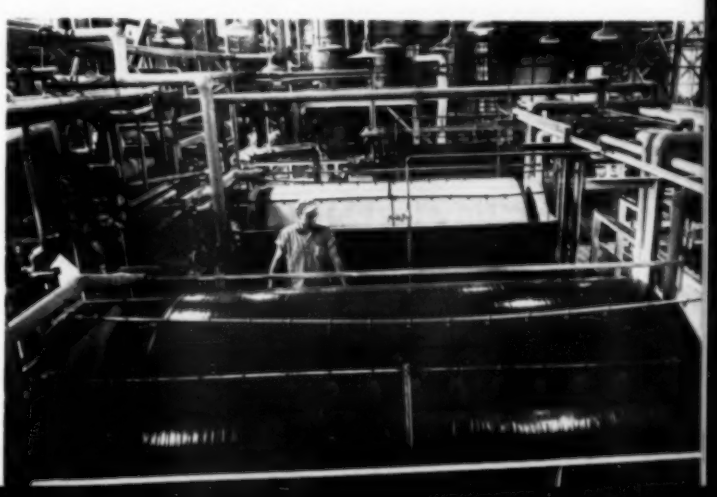
In producing antibiotics, in a flask or in a fermentor, you must grow only one type of organism. Just one intruder and you are wasting your time, for in this industry organisms and mistakes alike are self-multiplying. To sterilize the volumes of material demanded by deep tank fermentation with the sterility techniques then known, would have been as foolish as trying to sterilize Lake Michigan with a Bunsen burner.

Continuous sterilization of the thousands of gallons of medium that flow into a fermentation tank is now carried out in miles of snake-like piping. Leak-proof jacketed retention tubes, in which flow is delicately controlled, empty a cooled, sterile medium into the fermentation tank.

To help control temperature, a large-scale fermentation plant swallows every 24 hours a million gallons of water.

Heat problems plague our engineers from the moment the fermentation tank is seeded until the moment the finished product precipitates out a pure crystal. Or-

(Continued on page 270)



Brushless Shaving Cream

by William R. Keithler

Brushless shaving creams have grown more in popularity in a shorter length of time than perhaps any other type of product. The reason for this rapid popularity rests upon a number of important factors. First, they are much more convenient and easy to use than the lather creams, as no mug or brush are needed. Secondly, due to emollients contained in the creams, they prevent razor irritation and subsequent chapping. Moreover, they are very effective in making the hair stand up, thus rendering it easy to shave. Last, but not least, the majority of the brushless creams can be rubbed right into the skin in place of washing it off, thus increasing the emolliency.

The ideal shaving cream must be a combination of several very desirable properties rolled into one. It must be of a rather soft consistency, that is, it must be easily spread over the face, and yet it must not be so soft as to run. It must support the beard so as to allow the razor to cut it easily. The cream should lubricate the face and the razor, letting the cutting edge glide smoothly over the face. It should be very dispersible in water, that is, it should rinse off of the face and razor with little or no effort. It should be perfumed lightly with a pleasant masculine odor that is not persistent. Finally, the cream should be stable and retain its original consistency throughout shelf storage and moderate changes in temperature. It can readily be seen that the formulation and manufacture of a good brushless shaving cream can result in a great deal of research and testing. It is no easy matter.

Temperature and humidity play a very important role in the stability of a brushless shaving cream. Subsequently, all creams must be manufactured under rigid laboratory control, and all laboratory research creams should be subjected to a series of temperature and humidity tests. Some creams currently being manufactured are of such a sensitive nature that a difference of 5° in either direction will cause separation of the cream. This is an excellent example of neglect of such an important measure as quality control. The following steps in control and testing of a new product should be undertaken in all instances:

1. A sample of the cream should be stable for a period of ten days at a temperature of 50° C.
2. A sample of the cream should be stable for ten days when subjected to a temperature of 10° C.
3. Odor should be constant when subjected to these tests.
4. Odor should be constant from one batch to another.
5. Color should be uniform from one batch to another, preferably white.
6. Free alkali should be determined by titration, and there should be none.
7. Free fatty acids should be determined and should be present in excess of 15 per cent, calculated as stearic acid.
8. The moisture of the cream should be determined and should not exceed 70 per cent.
9. Shelf storage for a minimum of one month should not reveal any change in viscosity, odor, or appearance.
10. The cream should be stable when subjected to extreme conditions of humidity.

If these ten steps of quality control are undertaken for each batch of cream or each new formula, it is a simple matter to satisfy the ultimate consumer with a cream that is stable, consistent, and effective.

The subject of perfume is a very important one. Most men do not appreciate a heavy, sweet, persistent, floral odor. The majority of them prefer a spice, or masculine fougere, both of which should be used very sparingly. Lilac and lavender perfumes are used to some extent in these products, but do not seem to have the appeal of the former two. At any rate the choice of perfume must be governed both by fragrance and stability and compatability in the media.

The raw materials used in the manufacture of brushless shaving creams are many and varied. No set rule can be made to insure the value of the finished product no matter what ingredients it may be made of, unless the strict control described above as well as careful manufacturing procedures are observed. Careful weighing of the raw materials is of the utmost importance also.

Probably the most important raw material in the newer shave creams is the synthetic detergent. It plays a very important role in the wilting of the beard and subsequent ease of shaving. Besides its wetting action, it is also used to some extent as an emulsifier. Among the most popular compounds in this category are the

sulfated alcohols, the polyoxyalkylene derivatives of the higher fatty acids, and alkylarylsulfates, the alkylarylethersulfates, sulfated hydrocarbons, sulfated amides or esters, and to a very slight extent the quaternary ammonium compounds.

The selection of the raw materials to be used for the manufacture of brushless shaving creams must of necessity be made with caution. The fundamental structure of most of these creams is the same as the ordinary vanishing creams, to which has been added large quantities of emollient, lubricating and wetting agents. These vanishing cream bases may contain anywhere from 10 to 30 per cent stearic acid, of which only a portion is neutralized; usually this amount is about 25 per cent. The reason for this is in part due to the fact that only a partial saponification of the stearic acid is necessary. Also, the free fatty acids increase the emolliency of the cream and, of course, cause the attractive pearling effect.

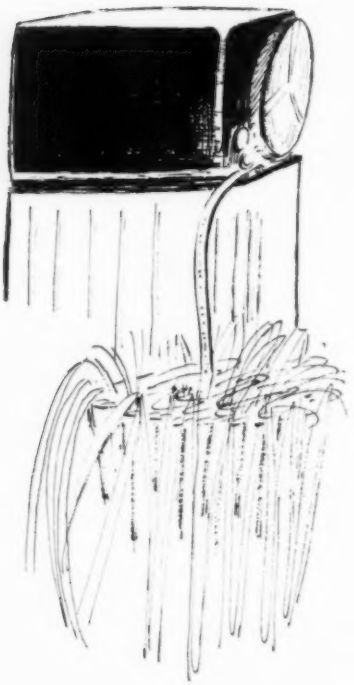
The quality of the finished product is based to a large extent on the quality of the raw materials. To avoid a colored cream it is necessary to use only white raw materials. This indicates the use of a triple pressed or highly saponified stearic acid, as well as a relatively pure alkali.

The humectants or hygroscopic agents usually used in brushless shaving creams are glycerin and propylene glycol. Higher glycols have also been used but in general are not as effective as the former two. Sorbitol has been recommended by several leading raw material distributors as an effective substitute for glycerin in these products.

A very important but often neglected part of the formulation is that of the alkali. Essentially the same effects will be noticed in shaving creams upon substitution of one alkali for another as is seen in the case of vanishing creams. Triethanolamine will yield a lustrous cream of very soft consistency, in fact, too soft to be recommended, at least by itself. It is usually used in combination with another alkali such as potash or borax. Potassium hydroxide is most commonly used for saponifying these creams. It produces a cream which is comparatively soft, yet stiff enough to support the beard, and at the same time possesses an excellent surface sheen. Sodium hydroxide is not used to any great extent for the simple reason that the creams formed are too hard, do not spread, and possess poor lustre. A few products contain a small amount of sodium hydroxide in conjunction with triethanolamine or potash.

The amino-glycols are not too popular as emulsifiers in shaving cream for the same reason as triethanolamine. They produce soft creams of fair lustre. Ammonia is almost never used as an emulsifier due to the fact that upon aging the cream will darken and there is a chance that gaseous ammonia may be liberated. So many of the newer emulsifiers are much more effective and yield much more stable emulsions, that both ammonia and sodium hydroxide are very seldom ever included in a formulation of this kind. *(Continued on page 266)*

BIG BUSINESS in pharmaceuticals



The fact that pharmaceutical manufacturing has become big business today has not only changed the character of the industry in many respects, but has also changed the attitude of the professions of pharmacy and medicine, as well as of the general public concerning the industry as a whole, or at least concerning one or more of the members of the industry. It is well within the memory of most people in the industry that practically all pharmaceutical manufacturing concerns were closely held by the families of the founders, or by the founders themselves. These firms each had a distinctive character stamped on it by its founder, and there existed in the large majorities a sense of personal responsibility on the part of these owners. These characteristics of these firms were felt by practically everyone who did business with them or who came in contact with them in any way.

Also there existed in the industry an attitude of friendliness and of live-and-let-live among the various firms. There were a few recognized leaders, but by and large, various firms specialized in certain fields and not many other firms disturbed them.

Then came the change. The "golden age of medicine," which started with the sulfa drugs in the middle thirties, and reached a new high with the point of development reached by the antibiotics, hormones, antihistamines, vitamins in the fifties. In the meantime, a very large number of these firms became "owned by the public" as the owners decided to dispose of a large part of their interests in these companies, or as owners died and a sale was necessary to meet the inheritance taxes. From this point on these firms were not run by their owners, although the heads of some of them are the same people who sold their interest to the public. But by and large these firms are now being run by professional management. That is, they are run by executives and a board of directors whose measure of performance is increased sales, increased profits, and increased dividends year after year.

This change in ownership of the manufacturing firms in the industry together with the fact that pharmaceutical manufacturing is now big business with only eighteen of the many firms in the business accounting for a total business at manufacturing levels of at least $1.2 billion, are the main reasons for the change in the industry and change in the attitude of the professions and the public toward it. It is doubtless this responsibility of professional management to increase a company's sales and profits, as well as its relative position in the industry, that is responsible for many of the sharp competitive practices which have crept into the industry. The increase in the evil of duplication of products by a large number of firms, each with its own trademark for the same thing made by the others, can also be laid at the door of professional management.

There was a time when pharmaceutical manufacturers as a rule had a reputation for being leaders in one or a few types of products. Houses which had originally been producers of a long line of pharmaceutical preparations learned that more profit could be made by dropping the long list of products produced by many firms, and confining themselves to a dozen, more or less, specialties. Thus one or more firms made great headway with vitamins, another made it with products of another type, and so on. But today—which the age of specifics when pharmaceutical manufacturers sell almost everything as a specialty—the line of products handled by many houses grows longer and longer.

Certain houses developed antibiotics. Now everybody and his brother has antibiotic preparations which are considered specialties mainly because they bear different trademarks. Certain houses developed the steroid

(Continued on page 273)

Packaging and Selling

Comparing new Sportsman packages (left) with the old style. Picture frame effect has been added along with Spencerian scroll in the name.

Solidified deodorant, now packaged in a white bottle with green trim. On right is the new gift box with a side-opening panel.

By adding the suggestion of a picture frame to its striking illustrations, Sportsman has changed the packaging of its full line of toiletries for the first time in 15 years. While the basic design is still a wild-life scene with a three-dimensional effect, the "Sportsman" signature now appears in a Spencerian scroll, adding greatly to the elegance of the entire package, along with the combination of chamois and green on white.

The new package is so attractive that it can now double for an appealing counter display in the store, as well as a special gift item for the consumer. For more information on this story see page 193.

OWENS-ILLINOIS ASSURES YOU A

Co-ordinated Research

Pure research into formulae and fabrication of glass, *packaging research* into processing and handling methods in customer plants, and *market research* into consumer attitudes, add up to greater specific value for your packaging dollar.

Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.

The Right Container

Versatility of facilities and talents points to Owens-Illinois as your best source of supply for a wide range of specialized needs: Containers where beauty, utility and tradition are blended in the proportions required by different product classifications.

For a Lady...Charm

COMPLETE PACKAGING APPROACH

The Right Closure

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.

Needed Fitments

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

For a Man . . . Good Grooming

For both . . .
a Duraglas salespackage
with sales appeal built in

The very lines of its package can draw customers to your product. It can have feminine daintiness—masculine vigor, and at the same time make your product convenient to use.

This way it becomes a *sales*package.

At Owens-Illinois salespackaging has been developed as a science. From bottle design, through proper fitments and closures, to the final carton, the purpose is to achieve a package that sells.

Whatever your product, call upon Owens-Illinois for packaging plans. You will have the co-operation of a marketing-minded supplier ready to provide glass containers of all types, capacities and designs.

DURAGLAS CONTAINERS
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

package her GLAMOUR

on a full-time basis

We agree with the Fragrance Foundation. Don't let perfume be a once-a-day thought.
Make the lady's allure and your profit an all-day proposition! You can do it with richer-looking, more distinctive flaconettes.
A lovely, fashionable metal purser stimulates her pride . . . she'll have it in view and *in use*
at every turn! Scovill provides caps or complete bottle casings of polished brass or other metals . . . to meet
any specifications. Talk over ideas with a Scovill man. He can help you create a prestige package certain to reflect in sales.
Scovill Manufacturing Co., Drug and Cosmetic Container Division, 63 Mill St., Waterbury, Connecticut.

SCOVILL
Containers

NEW IDEA
in package design *by Frank S. Child*

John Hudson Moore Co. Division of Warner-Lambert Pharmaceutical Company has completely revamped its entire line of Sportsman grooming essentials in one of the most interesting package improvements of the year. By standardizing its products into four- and eight-ounce sizes, consolidating the complete line and reducing the number of items from 70 to 30, and sparking its wild-life designs with more reality, the company after several months of work has been able to add unmatched zest and sales appeal to each package.

The most significant change in the Sportsman packages is the greater width of the individual carton, so that the back and front windows in each one are the same width as the bottle within. There are two side spaces inside the carton which act as side panel cushions and support the bottle, thereby keeping it from slipping around or getting broken while in transit. This arrangement allows the bottle to sit firmly on the bottom of the box but float on the sides. The carton liner has been eliminated so the bottle is completely visible to the customer and presents a very attractive shelf package.

These shelf cartons are unique in that they are made all in one piece, including the side cushions, and are especially designed to enhance the see-through effect of the bottles themselves.

In redesigning the packages this way, the company is now able to take the greatest possible advantage of its copyrighted third dimension process which uses both sides of the bottle to produce a three-dimensional wild-life scene. When viewed through the box itself, the scene is enhanced even more by the new, wide picture frame. These scenes are printed by using a new technique in full-color screening, resulting in a more true-to-life and authentic appearance.

John Hudson Moore has a standard "Sportsman" green which colors the top, bottom and sides of every shelf carton, making the white front and back stand out prominently, placing more emphasis on the product and the deep-dimension design.

The company replaced the cork and vinylite cap liner with one of tin foil. They found that in their pre-electric shave lotion the oil reacted with the vinylite, and quite often the liner would stick to the top of the bottle rather than remain inside the cap. Also, by using tin foil, they have been able to avoid any difficulty with the alcohol in the various products which formerly sometimes caused the cork backing and vinylite facing to separate.

Tying in with the single items are the Sportsman gift sets. Two of these, one containing an eight-ounce bottle each of shaving lotion and cologne for men, and the other, containing four-ounce bottles, are designed so that the two bottles stand side by side in each set and are visible through twin picture frames on both the front and back of the box.

In another set, having shaving lotion, talc and cologne for men, there are two wild-life scenes printed on both the front and back of the white cover which slides down over the green box. Although the bottles are not visible, this design suggests the deep-dimension effect and helps to identify the product clearly.

There are nine additional sets in which the contents lie down. These sets contain one, two, three, or four items each, depending upon the individual set. The wild-life scene is printed on the white box cover. These

(Continued on page 278)

Your product will be

SITTING PRETTY

in a Continental container

● On the store counter or in the home, your product will *look* and *act* its very best in a Continental container. Our artists and lithographers take infinite pains to make packages that are *easy to look at* . . . our design people work equally hard to make packages that are *easy to use*. And, always available to our customers are the skilled services of engineers, scientists and package machinery specialists. Why not see what Continental's Tailor-Made Package Service can do for you — personally.

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

COLOR in packaging design

by S. F. Udell

BON TON PRESS, NEW YORK

Our 20th Century U. S. A. is distinguished by an ever-accelerating tempo that makes it a progressively livelier place in which to live and work. Ours is a kaleidoscopic existence, faceted with colorful experiences. We have become a color-conscious people with everything youthened and vivified by the use of engaging tints and tones. Color makes products vastly more desirable and therefore easier to sell.

Color is the *Open Sesame* to the American temperament, to which it reacts consciously and subconsciously. Those who use it judiciously reap untold benefits. There is warmth, vitality, charm in color which causes a product to come alive. It gives an item get-up and go. Today, a colorless product looks like an also-ran and before long lapses into a sleeper on shelves. Colors smartly paced to a product enable it to hold a position in the fast-stepping packaging parade.

Today, color is both an art and science. There is precision in its application. We have color engineers and color stylists, who decree what are the correct colors for a product and who know how to pique them into popularity.

We have fashion councils that determine color styles and coordinate them between a multitude of products, which helps promote ensemble selling. Thus, merchandise is continuously refreshed and its appeal constantly renewed. Then, dream words are concocted that christen these new shades with alluring terms that enhance their glamour. What was once a riot of color in general lines has become transformed into a symphony of shades.

According to the findings of color experts, we learn that mass taste likes strong, clear colors with vivid contrasts. Men prefer bolder colors while women incline to gentler ones. Color preferences shift from region to region, country to country, even season to season.

We learn, too, that colors have a flexible variable—they can soothe and stimulate, make objects look smaller or larger, warm or cool. Color exerts a unique influence on people and products and it has the power to move both, when astutely applied.

CHARLES ANTCLL

TUSSY COSMETIQUES

PRIVATE LABEL AEROSOLS

. . . if you have an aerosol product

. . . if you have an aerosol project

. . . if you have an aerosol problem

LET
G. BARR & COMPANY
HELP YOU . . . Tens of millions of successfully selling aerosols are custom formulated and/or filled by G. Barr & Company for many of the nation's leading concerns. These are testimonials of leadership . . . earned through outstanding aerosol research laboratories . . . creative product development . . . meticulous quality control . . . effective production economies. And . . . G. Barr & Company markets no products of its own.

Whether you need help in developing a new aerosol idea or in filling a current product . . . whether you need 1,000 units or a million per week, G. Barr & Company's three aerosol filling plants—New York, Chicago, Los Angeles, can take care of your requirements now. Three key locations to assure you of freight savings and on-schedule delivery.

- *Aerosol filling by refrigeration or pressure.*
- *Aerosol packaging in metal, plastic, and glass containers.*
- *Aerosols as sprays, foams, powders.*
- *Aerosol cosmetics, insecticides, pharmaceuticals, waxes, cleaners, polishes, household products . . . your new product idea.*

Address inquiries to: 3601 S. Racine Avenue, Chicago 9, Illinois

G. BARR & COMPANY

Plants in: New York • Chicago • Los Angeles

ELIZABETH ARDEN

One of the most original uses of color is to be found in the present two-tone treatment of automobiles, which has done a superb "packaging" job for them. This innovation has undoubtedly helped automobile sales to jump to all-time highs. The public has been pleased by the mood-matches that give cars a more intimate, personalized accent.

Perhaps, the greatest advances in the use of color have been scored in the realm of packaging. It is a far cry from the olden days of unbranded merchandise, displayless counters, and products dished up out of tubs and barrels. Modern packaging has given personality and character to our products.

It is a current axion that a product is no better than its package. Our well-dressed packages, with their generous use of color, have given merchandise a quality look that has greatly enhanced their appeal and value.

Package design has become a full-fledged profession with a well-defined code of principles. Today's packages have functional beauty and give full play to trademarks. Carefully considered color schemes make for immediate identification of the product. Packages enjoy a poster visibility and are so planned as to create a decisive impact in whatever position they are viewed. Special effects are often devised such as cellophane windows, pop-up tops, double and triple units, that induce multiple sales. Then, designers pay considerable attention to the establishing of a color scheme that can be used throughout a family of products. With the increase of self-service, packages are called upon to sell themselves on sight, and success stories of this type fill the pages of trade publications.

Perhaps the hottest things in modern packaging are point-of-sale units, where color plays a major role. According to recent statistics, point-of-sale merchandising accounts for about sixty per cent of general sales. Point-of-sale means impulse-buying. It is emotionally motivated and color acts as a sure-fire stimulant. There is considerable showmanship in the development of these creations. With faithful realism, they can reproduce ad themes, provide a dramatic vending device for products, and become a springboard for sales. With the skillful use of color, they can have a visual decor that adds to the prestige of a product, and at the same time gets the edge on competition.

Many of these colorful display pieces compare with theatrical road show units. They represent ambitious production jobs when executed by impressarios of the craft. When set up in dealers' windows and counters with a full cast of products, they seldom fail to draw attention from the consumer.

One of the most meticulous jobs is the execution of counter cards for lipsticks, nail polish and similar items. Here, there must be an authentic fidelity of reproduction, where tints are matched shade for shade then given the finish of an overall lustre that "showcases" the entire piece. When such an ultra-realism is achieved through high-quality craftsmanship, the reproduction seems to surpass the product itself.

Present printing facilities, materials, and craftsmanship form a collaboration that produces work of exquisite distinction. No more are color values pitched too high or too low, that disturb the eye and dull desire. Engravings and process printing have an electronic prevision that reflect all the subleties of the original kodachromes.

Modern printing equipment permits high quality, high speed multi-color work at costs heretofore unavailable. Millions of units are turned out for mass markets in a matter of days. The ultimate results have a satin-smooth complexion, translucence, luminosity and sparkle that spell consumer appeal.

Yes, color is the Open Sesame to better packaging. It causes products to look more opulent and induces optimistic moods, that are translated into desire to buy. Color creates impressions that words are powerless to convey. For a fractional extra cost, added colors can convert an entire line into an enticing glamorama. It is the best investment a company can make in rainbowing products into pots of gold.

JULIETTE MARGLEN

Lilly safeguards quality and purity
... with Du Pont CEL-O-SEAL bands
REG. U. S. PAT. OFF.

Quality and purity of product are an obligation of any manufacturer of drugs and pharmaceuticals. At Eli Lilly and Company many products are protected by tamper-resistant transparent Du Pont "Cel-O-Seal" bands. Rigid quality controls are followed in the preparation of these products. And the unbroken protective seal is the assurance to the user that he receives the product exactly as prepared.

Du Pont "Cel-O-Seal" Bands will work for your package, too. They hold closures tight . . . guard against substitution, tampering, and spillage . . . establish family identification . . . inspire consumer confidence. Available in a variety of sizes and colors, "Cel-O-Seal" bands can be printed with illustrations and messages custom-designed to complement *your* packaging needs. (Bands may be hand- or machine-applied.)

FREE PACKAGING SERVICE: See what Du Pont "Cel-O-Seal" will do for your package. Send us a labeled container. Our packaging specialists will band it, return it for your inspection. No charge, no obligation. Write: E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Section, 10424-I Nemours Bldg., Wilmington 98, Delaware. "Cel-O-Seal" cellulose bands are also sold by Armstrong Cork Company, Lancaster, Pa.

DU PONT CEL-O-SEAL BANDS
REG. U. S. PAT. OFF.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Packaging and Selling

TEST CITY

In this era of market research, delving into human behavior and buying motivations, paneling and test campaigns, it is becoming increasingly important to understand all the factors involved when a specific city is selected for research.

Probably not many advertising campaigns based upon a new theme or a new product are launched today without substantial pre-testing in a number of markets. And yet it seems to us, in reading the sales and advertising literature, that a minimum of research has been conducted to determine the advantages and disadvantages of a specific market as a test, which would be representative for a national campaign and the investment of a heavy sum in advertising.

We recently sat in on a conference in which three cities in the United States were selected to use as a test campaign to determine the value of a new theme for national advertising. At the time it seemed to us that these cities were selected in a rather casual way, although later some elements appeared which did have substantial value in selecting these particular cities.

The only statistical evidence furnished as a basis for selecting these cities was comparative consumer income. That this is a totally misleading and dangerous figure to consider for market purposes is clearly shown in such statistics as those furnished by the Bureau of Labor statistics for the study of family expenditures in various categories. For instance, we mention as one extreme case that Salt Lake City, Utah spends $17.50 as an annual family expenditure for cosmetics, whereas Phoenix, Arizona will spend $9.32 as a family expenditure for these products.

America is a market of varied and conflicting social and racial strains. These have a tremendous effect upon the purchase of various classes of products. For instance, one city in America may be predominantly developed from a European strain where food, drink and home furnishings play a predominant part in their expenditures and cosmetics and apparel a secondary part. Another city, with relatively high income, may be predominantly a type of industrial population which makes it a very poor apparel market but which may rule relatively high in such things as radio and television, home equipment, etc.

Outside of the consumer market, which may be very complex and difficult to determine, other factors are certainly of substantial importance in selecting a test market. One of these is the type and character of the retail stores in the town, from the viewpoint of the particular product to be marketed. The willingness of these retailers to enter into promotions or a test campaign of this sort, in a way that will give the consumer advertising every opportunity to show its worth is equally essential. An important consideration here, if the product has an important place in the department store field, is the presence in this city of a number of one of the leading department store chains or groups such as A.MC or Allied. This same factor would apply to anyone of the big drug or food chains, if this is an important part of the operation.

Obviously, it is important to find out whether this market has excellent facilities for publicity, whether it has vigorous newspapers and spot radio and television available.

As some examples of the annual family consumption of cosmetics and toilet preparations, according to figures taken from the Bureau of Labor Statistics, we give the following table: Over ninety cities are listed in this Labor Department studies but the examples quoted here are sufficient to show the startling and often unexplainable variations in the willingness of these families to spend for cosmetic products.

Albuquerque, N. M.	$17.32
Atlanta, Ga.	9.13
Boston, Mass.	9.99
Charleston, S. C.	8.77
Charleston, W. Va.	14.00
Chicago	11.08
Cincinnati	8.99
Cleveland	8.46
Des Moines, Iowa	11.49
Hartford, Conn.	8.34
Indianapolis	9.44
Kansas City, Mo.	16.21
Los Angeles	13.52
Miami, Fla.	13.78
Milwaukee	8.81
Minneapolis, St. Paul	11.41
New Orleans	10.25
New York City	10.52
Oklahoma City	19.07
Philadelphia & Camden, N. J.	8.76
Pittsburgh	9.70
Portland, Ore.	9.55
Salt Lake City	17.51
San Francisco	12.54
Scranton, Pa.	6.42
Seattle, Wash.	9.47

These figures show conclusively how markets vary and how far any particular group of products, family expenditures in one city can be almost double that of another although per capita income in the two cities may be about equal.

The final problem of selecting a city for a test campaign is then to determine whether to pick one that is fairly average for the United States, one in which all the circumstances are relatively favorable and above average or whether to pick a truly tough market with the idea that if the theme succeeds there, it will be a cinch in the entire country. That, of course, is an individual question of policy and judgment.

Package Complexes

Pity the poor package. American business is making so many functional, design and psychological demands on the package that we are either entering a period where the package must be highly specialized to one selected marketing channel or it must adopt many compromises for a broad distribution.

At the recent meeting of the Package Designers Council, Gerald Stahl, Vice President of the Package Designers Council stated: "Fundamentally the package must serve as (1) A transfer agent, (2) A Protector; (3) A convenience for the retailer, (4) A convenience for the consumer."

Robert I. Goldberg, Chairman of PDC's Educational Department, told business "Also, it can and should expedite the branding of product."

Mr. Goldberg goes on to present 10 points which usually have to be considered in packaging of a product. These are (1) Consumer needs. (2) Purpose of the products—a new product or a changed product. (3) What is its primary appeal? (4) Has it a secondary appeal or use? (5) What is the general consumer habit in respect to the product? (6) What is the selling area? (7) What are the selling methods of the retail outlets? (8) What are the general design trends? (9) What are the design trends in the total industry? (10) What will be the advertising requirements.

Other considerations hinted at are competitive influences, production limitations and packaging costs. Allen Bernie, Chairman of the PDC Awards Committee stressed the following engineering necessities of package handling (1) On the assembly line, (2) in the shipping department, (3) In retail receiving departments, (4) By the sales person, (5) By the consumer.

Mr. Bernie believes that manufacturers who are adapting their packages to the changing shopping habits are being rewarded with dramatic gains in sales volume. Just to make it more interesting, George Reiner, Treasurer of PDC thinks a great deal can be accomplished by "putting the cart before the horse" and designing the product to fit the package. He cites several cases of the kind of instantaneous success that seems to happen so often in marketing today, as examples of designing the product to fit a unique or a gimmicky package.

Mr. Reiner also thinks that we are very far from exhauting the novelty opportunities of the re-use package. He cites such a thing as a candy bag which has a re-use as a comic face mask. Seemingly, Mr. Reiner also thinks that almost everything can be packaged for gift appeal. He cites a fishing accessory, swivels and snaplocks, which marked up a sensational sales gain of 600 per cent when put in a gift package.

We are ready to subscribe to all of these package considerations as important assets of product success. However, we still have an old-fashioned idea that the product is important too.

Noise

Noise is the newest culprit for a variety of human ailments. In addition to a faster pulse rate, heightened blood pressure, irregularity in heart rhythm and interference with the efficiency of the brain, quite a number of other human ailments are suspect.

Getting Harder

According to the Twentieth Century Fund's monumental report, "America's Needs and Resources," human beings and animals performed 65 per cent of the work in 1850 but only 1.5 per cent of the work in 1950. Now that hot, summer days are here, that last half per cent is getting hard to maintain.

Cosmetics to Medicine

In the past decade or so, quite a few pharmaceutical companies have entered into cosmetic manufacturing in one form or another. Today, quite a substantial part of the volume of cosmetics is associated or affiliated in some way with medicine.

The entry of Max Factor into a separate pharmaceutical division is, so far as we know, the first time a company completely cosmetic in its origin and character has entered into this other branch of the trade.

We understand that the first product is to be Sebb, and that this is a liquid solution for the treatment of dandruff and itchy scalp. Bruce Culbertson is in charge of sales.

Low Cost Foreign Retailing

Readers of this department know that a favorite subject of ours is the way the cost of distribution has been steadily growing and the way it has successfully been eating up all of the gains of mass production methods in reducing the cost of goods to the consumer. Judging by the experience of the last 20 years, even if automation comes faster than expected and we arrive at the complete push-button factory, it is highly possible that our so-called merchandising geniuses will think up so many new promotional gimmicks that the added cost of these gimmicks will wipe out the savings even of automation.

It is an essential fact that we must face some day that we have very nearly completely cartelized our distribution system into a frozen, rigid high-cost framework of selling protected by tradition as well as by monopolistic laws.

Even though the grocery super-market can operate at a cost of 18 per cent, as compared to 28 per cent for the drugstore, and 38 per cent by the department store, there has been little or no inclination on the part of these efficient and potent mass distributors to challenge high-cost retail operations. Under the mantle of tradition and such things as fair trade, the supermarket has ignored all of its advantages of low cost operation, at least for the products of this industry, in reducing cost to the consumer.

The big bad wolf of this era is of course the discount house, but we wonder what would happen in this country if we imported from what we are wont to think of as inefficient, backward, cartelized Europe a certain Swiss gentleman who has been making retail history in Switzerland with some of the most fabulous self-service shops in the entire world. This is Mr. Gottlieb Duttweiler, who is the founder and present head of Migros. Mr. Duttweiler's vast success in his own country is now generating its first foreign expansion by entering the Turkish market. Migros is reported to have the famous Co-Operatives in Switzerland on the run because they

Announcing *the Ne Plus Ultra of* Aerosol Cosmetic Containers

By Peerless, of course. The cosmetic industry will welcome this new aluminum aerosol can that has *no bottom seam*—insuring against leakage or seepage and assuring a constant pressure until the product is fully consumed.

Handsome in appearance, it has an eye appeal that will recommend it to a prominent place on the feminine dressing table. And because it functions with complete efficiency, it will have strong appeal, also, to men.

For perfumes, deodorants hair lacquers and other cosmetic products Peerless aerosol containers will give perfect performance, rare satisfaction. Why not write today?

Peerless Tube Company

Bloomfield, New Jersey

There's a PLAX Package with the ideal SHAPE for boosting your sales figures

Flexible by nature, Plax bottles make it easy for you to merchandise your product in graceful, functional contours . . . our wide range of stock shapes makes it economical, too. In addition you get a lightweight, unbreakable package that can save you hundreds of thousands of dollars in shipping costs . . . that affords a rainbow choice of colors . . . and the ideal dispensing method, whether it's a spray, drop-by-drop, controlled pouring or direct application. Consult Plax for the best in convenience packaging.

PLAX CORPORATION

P. O. Box 1019, HARTFORD, CONNECTICUT

IN CANADA: Plax Canada, Ltd., Montreal and Toronto

In plastic bottle packaging, only Plax offers continuous research, complete design service, and long experience.

are selling more efficiently and more cheaply. Various reports say that Migros is operating at a selling cost of not much above eight per cent. Duttweiler was recently quoted as saying "Only by such means—that is the bringing down of costs, the passing on of all benefits to the consumer, the reducing of working hours—can we who believe in it prove that free enterprise is not only the best economic system but a great moral force for good."

Quoting again from an English publication an English industrialist said to Duttweiler: "I wish we had you here in England." "Ah!," said Duttweiler, "so do a great many people in Switzerland!" It would be hardly flattering to us who believe that we are such paragons of efficiency and who live in the home of free enterprise, to have this enterprising Swiss enter American retailing with the cost reduction methods he is using abroad. Maybe we would then begin to learn something about truly reducing the cost of goods to the consumer. That is, if some of our trade practices and State and Federal laws would give Mr. Duttweiler a chance to operate here with the formula which has been so successful abroad in reducing retail selling costs.

Cost More to Sell

Newspaper announcements quoting "Sponsor" state that Procter & Gamble will spend 71 million dollars for advertising this year.

Along with that announcement, we were interested in a statement made at the National Automobile Dealers' Association as follows: "Everyone agrees that the modern automobile is the industrial miracle of our time. Yet, the only feature of this creation that dealers can sell is 'Ten dollars down and 40 months to pay.'" It does seem as if the better our products become and the more money is spent on research to improve them, the more money it costs to sell them.

Returned Goods Bad for Store

In certain branches of the perfume and the cosmetic industry, that is those companies doing business on a selected distribution or franchise basis and particularly with department stores, the custom of the retail right to return goods is generally accepted as a privilege of the store.

Now a manufacturer in the corset field comes out with a statement that the privilege of returning unsold merchandise to the manufacturer is as damaging to the store as it is to normal competition in the industry.

The buyer, fully aware that he will never get caught with any merchandise he selects on this basis, begins to buy what would otherwise be rejected. He buys carelessly and he buys confidently. For the time being, he ties up his open-to-buy funds and selling space in merchandise that never should have come to the store in the first place. It means too often that the store is buying goods that have no meaning in relation to store tradition. That clutters up the department with a lot of dead dogs.

The fact that a manufacturer accepts this way of doing business is the reason for opening the way to a torrent of unwanted merchandise which would never exist if the manufacturer had to sell it on a legitimate no-return basis.

This way of doing business is one of the basic reasons for a primary evil in the cosmetic business. That is the overwhelming duplication of branded products, many of which cannot justify their existence except on a basis of a subsidy which works against the long-time interest of both the store and the manufacturer.

Fast Time in Retailing

The Vice President for Engineering of the Electronics Corporation of America, John H. Troll, thinks that a new concept of time will ultimately lead to such things as an inventory control in a department store so that management will know at all times how much of each type of merchandise is on hand and at the same time automatically re-order merchandise which may be out of stock.

This expert says that nowadays electronic engineers regard one microsecond—that is, one-millionth of a second—"as a very slow and long time indeed." This looks to us like a lot of activity coming in the retail trade.

Consumer Analysis

The Consolidated Consumer Analysis for twenty markets and covering 1500 brands has just been published. This is the tenth annual Consolidated Report of the twenty individual surveys of leading national metropolitan newspapers.

Losing Co-op Advertising

Newspapers have been losing more than a million dollars a year in cooperative advertising from the cosmetic industry. New retail practices have added the last straw in building up a revolt against cooperative newspaper advertising. This million dollar figure was recently cited by a prominent cosmetic manufacturer who has discontinued almost all of his company's retail co-operative advertising.

This revolt was not caused by a number of practices in co-operative advertising which have disgruntled cosmetic manufacturers for many years. The retreat from the newspaper is the result of a new practice which seems to be gaining favor with many large stores all the way across the country.

This leading cosmetic manufacturer was recently urged to take a co-operative full-page in the roto section by a store in a Northeastern city. The store quoted to the manufacturer a line rate of 94c. The manufacturer discovered, to his startled surprise, that he could buy this space at the national rate for a single insertion, with no reference to the store, at 92c.

Cosmetic manufacturers who have investigated co-operative rates find that stores are adding to their local rate across the country anything from 10 to 100 per cent. Just as bad as this, as reported by this manufacturer, in many cities each store will quote an entirely different rate per line for the same newspaper to different manufacturers. Strangely enough, it usually happens that the bigger the store, and therefore presumably the lower their local rate, the higher the rate quoted to a manufacturer. In one Western city, re-

Cross Swing Sifters

SALES PACKAGES

Cross Swing Sifters — today's modern container — affords your package an all-round versatility which makes it stand out in competition and step out with greater sales.

Cross Swing Sifters are being used for cosmetics, foods, drugs, pharmaceuticals or any other product that can be dispensed through a shaker or sifter . . . Can we serve you?

MINIATURES

Now available with NEW plastic plug bottoms for easier filling. Cross round miniatures, an exact replica of your full size container, provides the answer for the perfect sample package. Both full size and samplers can be filled with any standard filling equipment. Ask for a representative to call, or write for details and samples.

CROSS PAPER PRODUCTS CORP.

4377 Bronx Boulevard New York 66, New York

CREATORS • MANUFACTURERS OF INDIVIDUALIZED ROUND AND OVAL PACKAGES

cently a very large store quoted a rate of 45c a line while a small store who certainly does not use one-tenth the volume of advertising quoted a rate of 32c.

It appears that some department store people have discovered in their advertising department a new profit producing operation for their store.

The department store Christmas catalog is another branch of the advertising department in which stores see increasing profit possibilities. Instead of a store promotion to increase sales, many of these Christmas catalogs are becoming a profit-making publishing operation of the store. In some of these Christmas catalog extravagant advertising rates, on the basis of their circulation, are demanded from manufacturers. In at least one specific case, illustrating what is probably general, the cosmetic buyer admitted that the rate was not uniform but was determined on what the traffic would bear and how much each departmental buyer thought he could pry out of the manufacturer.

Pretty Poor Companionship

From time to time in this department we have quoted our Secretary of Agriculture, Ezra Taft Benson. It may seem strange that we should turn to our top policy maker in agriculture for words of wisdom applicable to this industry. But he is apparently that kind of a man. Recently, Mr. Benson made a statement which we believe is particularly applicable to one of the primary problems of the manufacturer in our trade. That problem is the large number of not-too-productive items in a line, the appalling number of duplications offered to the retailer and the overwhelmingly large number of branded products in the trade that are worse than Little Orphan Annies. These are products which nobody wants, certainly not the retailer or the consumer, and for which there has never been any demonstrated reason why anyone will ever want them. Here's the statement: "About all a dairyman gets from a cow which gives only 5000 or 6000 lbs. of milk per year is her companionship."

Merchandizing, 1955

American package sales are more and more at the mercy of a gimmick. According to McCall's magazine supermarket letter, there is constant brand switching of breakfast foods because of the popularity of a cowboy, a space cadet or a current TV character.

"A child will ask his mother to buy a package whether he likes the product or not, just to get the premium."

Shifting Population

The mobility of people in the United States is a potent factor in business prosperity and for much of the dynamic character, according to the Institute of Life Insurance.

The U. S. Bureau of Census shows that nearly one-fifth of the civilian population moved during the year ending April, 1954. The number of people moving came to over twenty-nine million.

"Many of the movers," according to the Institute, "left the city for the suburbs and played a big role in the demand for housing which has been such an important factor in the high level of economic activity the nation has still been enjoying. Still others left the farm or rural areas for city jobs."

As a historical background for the flight to the suburbs and the development of suburban shopping habits, these figures are interesting and valuable. We wish, however, that the Institute could come up with some figures indicating whether this is a permanent phenomena of the United States or whether we are near the end of a temporary social movement. It would seem the Life Insurance Institute believes that a return toward stability of population would be an unfavorable business factor.

Whiskers

The newspaper columnist, Elmer Rossner, recently came up with a discovery that beards are coming back, at least in advertising. Cited as proof, is the advertising of John Hancock Life Insurance Co., Van Heusen Shirts, "Old Crow" and of course the most notorious of all "Man from Schweppes."

This seems to us an absolute slap in the face to the millions of dollars being spent for shaving products.

Low Market Research

Edgar Kobak, Business Consultant and President of the Advertising Research Foundation, told the members of the Proprietary Association at their Seventy-third Annual Meeting, that the per cent of income spent to advertise proprietary remedies is probably greater than for any other type of industry. However, the per cent being spent to find out what goes on in the minds of prospective buyers in the proprietary field is smaller than among other product classifications.

Drug Store Survey

Those who are interested in the retail drug store will find a wealth of valuable material in a study specially conducted for the Rutgers Pharmaceutical Conference by National Family Opinion, Inc., of Toledo, Ohio. This study is called "The Consumer Speaks Her Mind about Drug Stores."

One of the things which interested us in this study was the amount of traffic which flows into the iddividual drug stores. This study shows that "about 84 per cent of all respondents indicated that they patronized one particular drug store more than any other, while about 14 per cent do not do so and two per cent stated that they never go to a drug store."

"The majority (54 per cent) of those respondents who patronize one drug store more than others, apparently visit this drug store less often than once a week. Twenty-six per cent indicated that they go to this drug store once a week and 17 per cent indicated visits more often than once a week.

This frequency of visit does not indicate particularly heavy traffic, from the viewpoint of picking up the kind of staple necessities that are making self-service departments a success. More than anything we have seen for a long time, this degree of drug store traffic indicates to us that self-service does not belong in a drug store.

Available plain, debossed, silk-screened or decorated with jewels. Goldcote caps shown come plain or jeweled. Other caps in various shapes and colors obtainable.

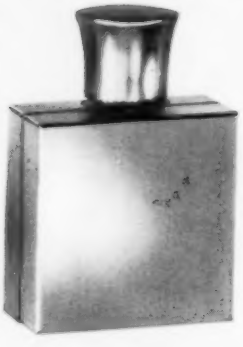
RICHFORD SPILLPROOF METAL ENCASED PERFUME FLACONS

Shaped for Sales!

Highly-Polished Brass, 1 dram Spillproofs in seven shapes — perfect for the purse — easy on the pocketbook. Write now for samples and prices.

No. 2201 Flat Oval

No. 2301 Bermuda



No. 2001 Square

No. 2251 Tall Oval

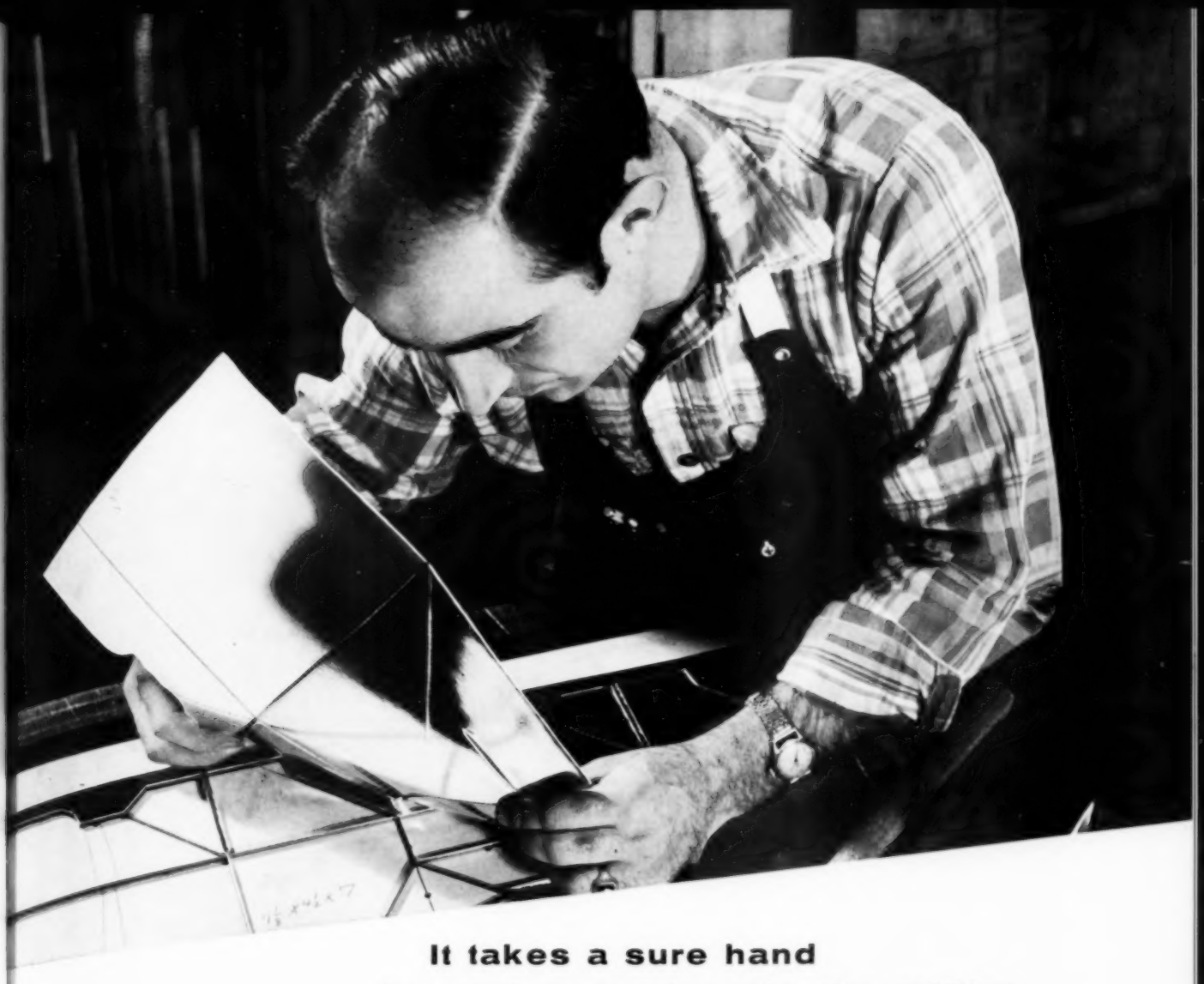
No. 2151 Tall Round

RICHFORD
CORPORATION
404 FOURTH AVENUE, NEW YORK 16, N. Y.

No. 2101 Watchcase

No. 2401 Nassau

ACTUAL SIZES SHOWN



It takes a sure hand to produce cartons by the million

This skilled die-maker takes over after Gair carton designers set the pattern for sales.

Take your carton, for instance. Gair Package Analysis* points the way to the right material, the right structural and graphic design, and the right printing process for your market and product.

Then it's up to Gair's production men to mass-produce the finished carton. That means precision die-making (shown above) plus perfection in all phases of production: cutting, creasing, folding and gluing. It means skilled men and specialized machinery working together... to make sure there's no variation between the first carton and the millionth to jam your mechanical packaging machinery.

You'll find the right men and machines to do the job at Gair.

**Gair Package Analysis* is a service designed to blueprint a successful carton for your product. One of our men will be glad to stop by and give you the full story.

GAIR
ACM

creative engineering in packaging

FOLDING CARTONS • SHIPPING CONTAINERS
PAPERBOARD • KRAFT BAGS AND WRAPPINGS

ROBERT GAIR COMPANY, INC.
155 EAST 44th STREET • NEW YORK 17, N. Y.

LIPSTICK TRACES

THROUGHOUT THE WORLD

LEAVE A BRILLIANT TRAIL

OF BEAUTY FROM

PLUME & ATWOOD

Lipstick Cases

THE PLUME AND ATWOOD MANUFACTURING COMPANY • THOMASTON, CONNECTICUT

LOOK AT THE FLOOR . . .

for proof this cap is stronger

Try a run with Armstrong Hi-Tork® Caps, and keep your eye on the floor while you do it. You'll notice something from the start—broken caps are few and far between. This will be true as long as you're using Hi-Torks.

Hi-Tork Caps are stronger. For the cap is designed so that each part—dome, thread, and skirt—takes its proper share of stress. This extra strength means a more economical, more efficient operation.

Let us help you set up a demonstration. Then you can see the advantages of Hi-Torks for yourself. Simply contact your Armstrong man or write Armstrong Cork Company, Glass and Closure Division, 5308 Chambers Street, Lancaster, Pennsylvania.

Armstrong "HI-TORK" MOLDED CAPS

Success of aerosol

importance of a

Here's why an aerosol package is more than a container

Of course, an aerosol package is wonderful protection against breakage and spoilage or evaporation. Retailers surveyed recently gave that as one of the prime advantages of aerosols . . . a good package *should* protect the product.

But more than that, an aerosol package is interesting and catches the customer's eye and imagination. With aerosol containers it's also easy to put plenty of information on labels, completing your selling job at the point of sale.

An aerosol package is ideal for burn lotions. Customers are going in a big way for the no-dabbing, no-swabbing convenience of the easy aerosol dispensing method, which applies the product without any spilling or spoiling.

burn lotions shows working package

Ask Du Pont how aerosol packaging can make your product more effective and push up sales

Burn-lotion customers are going for aerosols in a big way, and druggists across the country are taking advantage of it—they're pushing aerosols because aerosols boost sales!

The aerosol method gets the lotion right to the sore spot—without any swabbing, dabbing or handling, without touching the aggrieved spot at all. Instantly, at the push of a button, the product is sprayed on right where it can go to work soothing the burn.

Of course, this is just one example. Shaving creams, colognes, perfumes and many other drug products are enjoying increased sales with aerosol packaging. Customers know their aerosols these days . . . know that the aerosol way is the easiest, neatest, most effective way to dispense a product. Thinking of putting your product in an aerosol package?

Du Pont can help you enter the aerosol field

As you know, there's a great deal more to it than just packaging your product in an aerosol container and sending out salesmen. That's why Du Pont offers you assistance in evaluating your potential aerosol product.

Du Pont will be glad to advise you on formulation and recommend the "Freon"* propellent that's best for your particular product. We'll put you in touch with contract loaders who will help you in the selection of container and dispensing valve. If you wish, we'll advise you on setting up your own laboratory program for aerosol research.

INFORMATION ABOUT the aerosol market is still another service you can expect from Du Pont, manufacturer of "Freon" propellents—the *safe* propellents—nonflammable, nonexplosive, virtually nontoxic. Just clip the coupon below for further details about the skyrocketing aerosol market!

HERE'S HOW AEROSOL PACKAGING PAYS OFF AT THE RETAIL LEVEL

This chart shows conclusively how the retail druggists of the nation have received aerosol products. Du Pont's latest survey of the aerosol market revealed that 99% of the druggists interviewed stocked one or more aerosols. Retail acceptance like this can help you put over your product . . . in an aerosol package!

PIN THIS COUPON TO YOUR COMPANY LETTERHEAD

KINETIC

FREON
SAFE PROPELLENTS
**"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon propellents*

DU PONT
REG. U.S. PAT. OFF.

Better Things for Better Living . . . through Chemistry

E. I. du Pont de Nemours & Co. (Inc.)
11500 Nemours Bldg., Wilmington 98, Delaware

- ☐ Please send your booklet on aerosol packaging, "Package for Profit."
- ☐ I am interested in market-research data.
- ☐ I am interested in learning how I can get technical assistance.

The type of product I have in mind for aerosol packaging is _____

Name _____

Position _____ 158

Doing's ... NEWS IN PACKAGING

New Package for Tums

The Lewis-Howe Co., manufacturer of Tums, is now packaging this product for the first time in key-opening, vacuum-packed metal cans (American Can Co.). The company will also continue to sell Tums by the roll in cartons.

The new package has 12 ten-cent rolls plus a free metal Tums Carrier in each can for $1.

Packaging Honors to Ciba

Walter P. Miller, Jr., president of Walter P. Miller Co., presented awards to Ciba Pharmaceutical Products Inc. on June 27 for four boxes which took honors in the 1955 Competition of the National Paper Box Manufacturers Association earlier this year. This was a nationwide competition among 2,000 entries. The presentation took place during a luncheon at the Hotel Suburban, Summit, N. H.

Mr. Miller paid high tribute to the design and merchandising skill of the Ciba staff, commenting that this was the first time a manufacturer in the pharmaceutical field, or in any other field, had won so many awards in one competition.

The four prize-winning packages, discussed more fully in the June issue of DRUG & COSMETIC INDUSTRY, were a window-box for Privine nasal decongestant in two dosage forms, a hinged sample box for several Ciba products, and a mailing box for Pyrabenzamine tablets.

Each of these boxes was manufactured by Walter P. Miller Co.

Those Ciba executives who were on hand included V. A. Burgher, sales vice-president; P. W. Roder, advertising vice-president; L. J. Sichel, secretary and assistant to the president; L. H. Zahn, manager of the package development division; John Marmaras, assistant design director; H. E. Fortiner, manager of the planning add inventory control division; S. Firebaugh, purchasing agent; G. Bartholomew, assistant purchasing agent; and J. R. Beattie, public relations director.

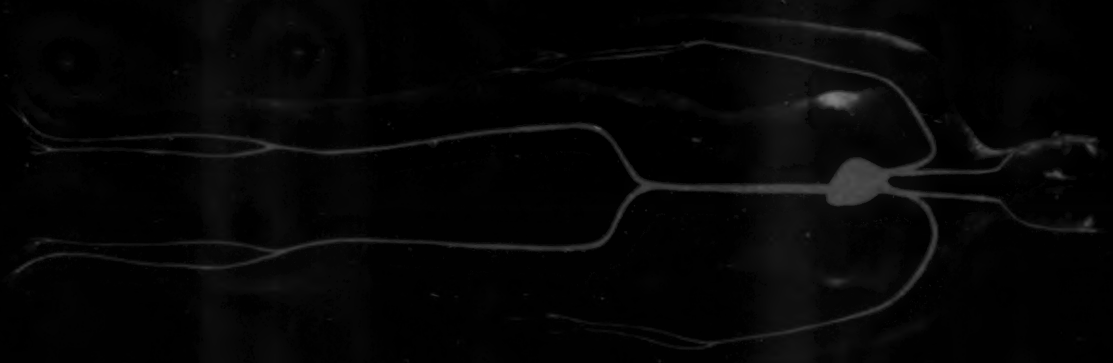
Mr. Miller was accompanied by J.

Walter P. Miller, Jr., center, president of Walter P. Miller Co., presenting awards to Ciba representatives: left to right, John Marmaras, assistant design director; Vincent A. Burgher, vice-president in charge of sales; Lawrence H. Zahn, manager, package development division; and Paul W. Roder, vice-president in charge of advertising.

Members of the Southeastern section of the Packaging Institute's production line committee touring the Smith, Kline & French Laboratories. Three men at extreme left are unidentified. Left to right: Dr. L. C. Reisch (wearing glasses), Wyeth Labs; W. Herb, Continental Distilleries; R. W. Abling, committee chairman; H. Baines, E. R. Squibb & Sons; W. Howarth, Squibb; M. Duellman, S. E. Massengill Co.; and T. O Brien, Sharp & Dohme, Inc. Back row, third from left: W. Farrell, Smith Kline & French; C. Parsons, Lederle Labs; W. Dietrich, Continental Distilleries; and T. Smith, Serutan Co.

SHEFFIELD TUBES

SELECTED BY THE UPJOHN COMPANY



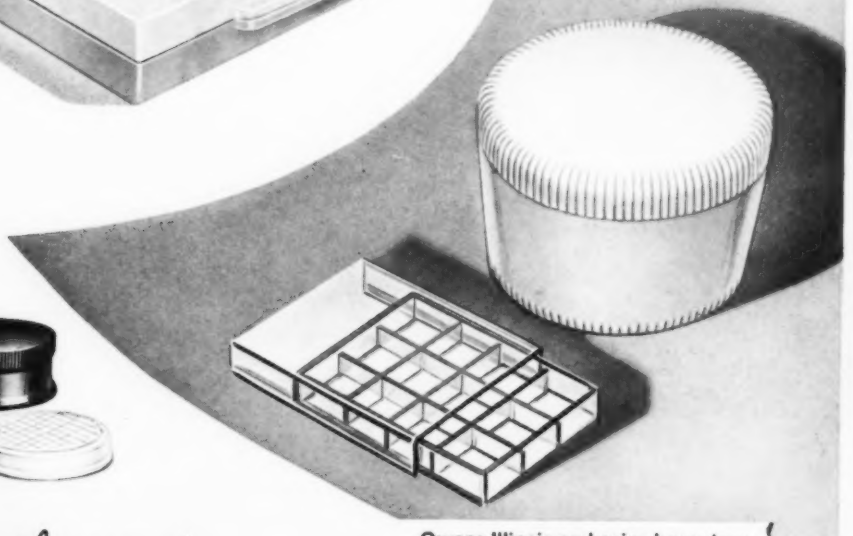
In man's patient fight against bodily ill, pharmaceutical companies steadily contribute potent new combination formulae. Upjohn's Neo-Cortef® ointment *combines* anti-inflammatory action with wide-range anti-bacterial action. It's prescribed by physicians for many skin infections including certain types of eczema, pruritis and dermatitis. For this effective ointment, *Sheffield Process Tubes*...the sanitary safe collapsible metal tube...is a natural selection. Why not use Sheffield for *your* next order!

The Sheffield Tube Corporation FACTORY AND HOME OFFICES: NEW LONDON, CONN. • SALES OFFICES: NEW YORK • CHICAGO • LOS ANGELES

For precision and versatility—choose
OWENS-ILLINOIS for PLASTICS

For example—
A lady's compact

For example—
Cosmetic jar and tablet container.



For example—
Fitments for glass, plastic, metal and paper containers (slip caps).

Owens-Illinois packaging know-how and high-quality standards offer you the *finest* in molding plastic facilities . . . Injection molding . . . Compression molding . . . A complete range in plastics for packaging, for specialties.

Branch Offices:

Albany.....New York	Columbus.....Ohio	Memphis.....Tennessee	Portland.....Oregon
Atlanta.....Georgia	Dallas.....Texas	Milwaukee.....Wisconsin	Richmond.....Virginia
Baltimore.....Maryland	Denver.....Colorado	Nashville.....Tennessee	Rochester.....New York
Birmingham.....Alabama	Detroit.....Michigan	New Orleans.....Louisiana	St. Louis.....Missouri
Boston.....Massachusetts	Fresno.....California	New York.....New York	St. Paul.....Minnesota
Buffalo.....New York	Houston.....Texas	Oakland.....California	Salt Lake City.....Utah
Charleston.....West Virginia	Indianapolis.....Indiana	Oklahoma City.....Oklahoma	San Francisco.....California
Charlotte.....North Carolina	Jacksonville.....Florida	Omaha.....Nebraska	Seattle.....Washington
Chicago.....Illinois	Kansas City.....Missouri	Peoria.....Illinois	Toledo.....Ohio
Cincinnati.....Ohio	Los Angeles.....California	Philadelphia.....Pennsylvania	Yakima.....Washington
Cleveland.....Ohio	Louisville.....Kentucky	Pittsburgh.....Pennsylvania	

OWENS-ILLINOIS PLASTICS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Wilkins, vice-president and general manager of the Miller organization, and R. F. Irwin, sales vice-president.

Wins Junior Achievement Award

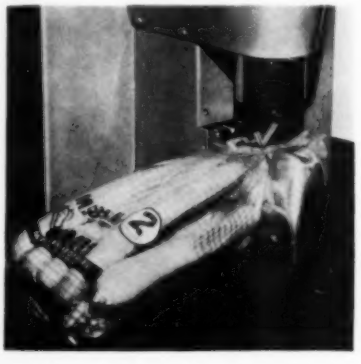
Si Bon Cosmetics Company, a Junior Achievement enterprise, received the Award of Honor for 1955 recently (for its French Flair Packages) in the National Product Competition sponsored by the Pioneer Valley Achievers' Association at Springfield, Mass., birthplace of Junior Achievement. This particular award was for "outstanding achievement in winning First Place in Chemical Products."

Si Bon was guided by Kolmar Laboratories, Milwaukee, some of whose top executives helped the Junior Achievement firm from the moment it was formed until its final liquidation.

Kolmar has been sponsoring similar groups for the past four years and, during this period, has helped two Junior Achievement companies win the "A" awards.

Machine Ties Plastic Bags

Plas-Ties Co., Santa Ana, Calif., has developed a machine that ties film bags automatically and is capable of handling as many as 40 bags per minute ranging from one half to 25 pounds in capacity.



Designed for use with the company's vinyl-covered wire tape, the machine automatically cuts off the proper length of tie when the bags are fed into it by hand, fastens the tie around the neck of the bag and twists the two ends of the closure together to form a tight seal.

The ties are available in colors and may be imprinted in any manner the customer desires.

Short Packaging Course at NYU

Under the joint sponsorship of the Society of Industrial Packaging and Materials Handling Engineers and New York University, the Society's 1955 "Short Course" will be held from September 19 to 21 at NYU's College of Engineering, 191st St. and University Avenue, New York. Plans for the course were made over a six-month period by a committee headed by Dean Wilbur McKee of the University and Allyn C. Beardsell of Container Laboratories, Inc.

The course will consist of an intensive review of the basic technical principles used in packaging and materials handling, the modern application of these principles, a summary of recent developments in the field, and reports of research projects now under way.

Among other programs, there will also be a one-day conference on consumer packaging and its importance to modern merchandising.

Registration for the Short Course, or for any part of it, may be made through the national headquarters of the Society of Industrial Packaging and Materials Handling engineers, 111 West Jackson Boulevard, Chicago 4. Registration for the entire session is $30 for members, $40 for non-members.

Almay has added a delicately fragrant talcum powder in a squeeze plastic package to its line of hypo-allergenic cosmetics.

American Ferment Co. has marketed Falgos Tablets, a new buffered analgesic compound tablet for the relief of pain in headache, neuralgia, neuritis and similar conditions.

Harriet Hubbard Ayer has introduced two new products: Ayer-Net Hair Spray with Lanolin packaged in a white aerosol bottle, and Midas Touch liquid spray to streak, tip, accent or give an all-over stardust effect to the hair.

Bourjois has developed a new fragrance called Roman Holiday, the complete line of which includes perfume, cologne, dusting powder and a set of cologne and dusting powder together.

Bristol Laboratories has two additional dosage forms of Polycycline designed for infants and children. They are Polycycline Aqueous Pediatric Drops and Polycycline Aqueous '125'.

Eaton Laboratories has introduced a Furaspor Cream in a new one-ounce jar.

Max Factor is introducing a new refill for its Creme Puff make-up. The refill is in a usable metal case complete with puff and retails for 85 cents plus tax.

Hyland Laboratories is releasing human gamma globulin concentrates for the prevention and treatment of mumps and whooping cough. The preparations are called Antimumps Serum (Human), Concentrated, and Antipertussis Serum (Human), Concentrated.

Mauvel Ltd. has added Dawn Gray to its list of eyebrow pencil colors. It blends well with all shades of eyeshadow and mascara.

Monico has introduced a new line of men's fragrance, called Royale Crest. It is available as a shaving lotion and as a cologne, or in the combined set.

The firm has also introduced a new line of bath preparations called SiBon which include Perfumed Bath Oil, Dry Skin Bath Oil and After Bath Friction.

Norwich Pharmacal Co. has introduced two new products: Sweet Drops, a concentrated liquid saccharin sweetener for cereals, beverages and cooking, and Norwich Bacitracin Ointment for use in the prevention of skin injections in minor cuts and abrasions.

Parke, Davis & Co. is distributing a new antibiotic preparation called Chlorostrep which combines two drugs, Chloromycetin and dihydrostreptomycin. It is used for the treatment of various enteritic infections.

Pfizer Laboratories is now marketing Sterane, a powerful anti-arthritic and anti-inflammatory steroid four to five times more potent than cortisone or hydrocortisone.

Purdue Frederick Co. is distributing Senokot, a newly processed extract of the pod of Cassia acutifolia (North African senna), for the treatment of constipation.

E. R. Squibb has a new formula Steclin Oral Suspension (Squibb tetracycline calcium) which requires no reconstitution and is ready to take by dropper or teaspoon.

Sofskin has repackaged its Sofskin Hand Cream in a modern sculptured white glass jar with finger-grip sides. The front and back labels are metallic gold with black lettering, add the closure is black with gold.

control's the thing...

WITH ANCHOR HOCKING, TOO

The clutch pitcher must have sharp *control* to deliver the ball to the right spot at the right time. And *control* is important, too, in the manufacture of Anchor Hocking quality products.

From the selection of all raw materials to the final production line inspection, Anchor Hocking employs literally hundreds of exacting *controls,* tests and checks involving many scientific testing devices. Although each factory maintains a laboratory of its own for quality control purposes, central laboratories at Lancaster, Ohio, serve as a control center for all—veritable watchdogs that make certain Anchor Hocking products comply with their rigid specifications.

Eleven strategically located factories and sales-service representatives in 25 principal cities in the U. S. and Canada await the opportunity to serve you with controlled high quality Anchor Hocking products.

Anchorglass® Containers are uniformly strong, tough, dependable—high in chemical durability, accurate in dimensions, capacity and finish . . . a result of exacting quality controls.

50th Anniversary

Readings with the optical pyrometer and use of continuous recording instruments provide exacting control of furnace temperatures so essential to good glass.

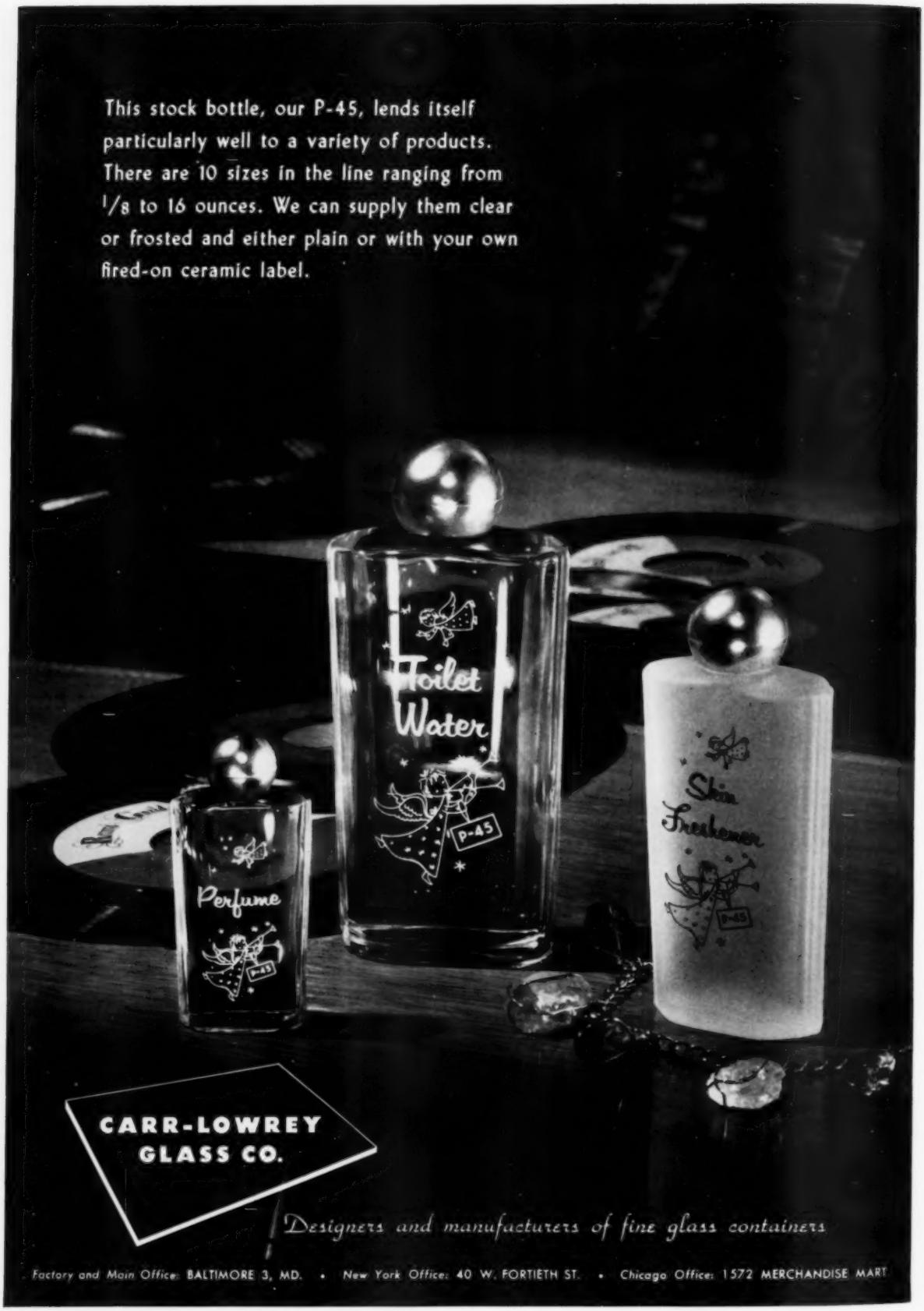
Plug gaging of bottles is but one of many controls that are standard procedure in maintaining accuracy of Anchorglass Containers.

Glass ring sections, cut from containers removed from production, are examined critically for proper distribution of glass so important for uniformly strong containers.

ANCHOR HOCKING GLASS CORPORATION

GENERAL OFFICES — LANCASTER, OHIO

Anchorglass Containers, Anchor Metal and Plastic Closures, Anchor Sealing Machines, Cartons and Package Engineering Service... for Packers, Manufacturers, Bottlers of Foods, Drugs, Household Chemicals, Cosmetics, Toiletries, Beverages, Beers, Ales, Wines and Liquors.


This stock bottle, our P-45, lends itself particularly well to a variety of products. There are 10 sizes in the line ranging from 1/8 to 16 ounces. We can supply them clear or frosted and either plain or with your own fired-on ceramic label.
Toilet Water
P-45
Perfume
P-45
Skin Freshener
P-45
CARR-LOWREY GLASS CO.
Designers and manufacturers of fine glass containers
Factory and Main Office: BALTIMORE 3, MD. • New York Office: 40 W. FORTIETH ST. • Chicago Office: 1572 MERCHANDISE MART

THERE'S *Merchandising Magic* . . . . IN GLASS AEROSOL

New success stories of self-spraying packages are being written daily. What about your product? If now marketed in liquid form, it may gain new sales appeal and value when offered in pressurized containers. And you need not invest a penny in equipment or personnel; we can take care of all filling, storing and shipping. Write for free folders . . . *now!*

CONTINENTAL OFFERS:

Complete Filling Service

We do not merchandise any products of our own. Our sole operation is contract and custom filling of containers with *your* products . . . liquid, pressurized or aerosol . . . in glass or cans.

Extensive Laboratory and Production Facilities

Continental conducts chemical analysis and continuing research on dispensing methods and containers. Filling equipment is the finest in the industry, geared to handle orders of any size. Quality control and inspection safeguard your shipments.

Warehousing and Drop Shipping in Bulk Lots

Extensive storage space permits you to use our two centrally-located plants as nation distribution points, with consequent large savings on freight costs. We handle shipping and paper work. Your orders are ready when you want them.

CONTRACT AND CUSTOM FILLING

LIQUID SPRAY FOAM

MAIN OFFICE • 123 NORTH HAZEL STREET, DANVILLE, ILLINOIS

CONTINENTAL FILLING CORPORATION

PLANTS • DANVILLE, ILLINOIS — HOBART, INDIANA

CROWN CLOSURES

for better sealing—

Crown's long experience in the science of sealing, its exceptional skill in precision manufacture and its careful maintenance of correct tolerances are your assurance of trouble-free application on your containers. A wide variety of liner materials, many of which are exclusive with Crown; a tremendous store of data on the suitability of various liners for specific products; and unsurpassed Customer Laboratory Service are other reasons why it pays to make Crown your "sealing headquarters."

LABORATORY SERVICE

Crown maintains two laboratories. One for research and development, the other as a customer's consulting service. The services of the latter are available without cost to help packers select the closure and liner best suited for their individual products.

for better selling—

Crown Closures give consumers all the protection they expect . . . the kind of convenience they want. These caps are easy to remove . . . easy to replace . . . make a perfect re-seal over and over. In order to help your product sell on the store shelf, Crown's Art Department will assist in creating an attractive, attention-getting design for your closures.

DESIGN SERVICE

Customers of Crown may use without cost the services of a comprehensive design service. New designs will be created or adapted from present labels or trademarks.

CROWN CORK & SEAL COMPANY, INC.

Closure Sales • Baltimore 3, Maryland

World's Largest Maker of Metal Closures

NEW PERFECTION
DROPPING PARTS
meet EVERY
"Satisfaction Test"

QUALITY	A-1
UNIFORMITY	A-1
PERFORMANCE	A-1
CLEANLINESS	A-1
SERVICE	A-1

#1

Non-rolling, extra-depth, Bakelite cap; thick-flange rubber bulb; Saftee-ball glass.

#3

Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

#4

Metal cap: AMEKINE oil-resisting synthetic rubber bulb; blunt glass.

They're A-1 with your customers, too . . . assuring you repeat sales!

When you sell a product that pleases and satisfies your customers, you're assuring yourself of their goodwill and continued patronage. New Perfection Dropping Parts help to give you that kind of a product. They are convenient, attractive, dependable—manufactured and assembled under careful and constant inspection to assure the highest possible quality.

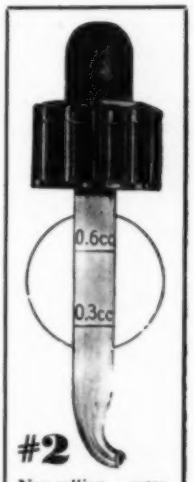
RUBBER BULBS are supplied in many styles and colors. Oil-resisting AMEKINE synthetic rubber is used for oil preparations; natural rubber is supplied for other products.

CAPS of plastic or metal can be furnished in a complete range of sizes and colors.

DROPPER GLASSES are available in a wide variety of styles and sizes; plain or CALIBRATED in any color to mark specific dosages.

• • • • •

We can make up dropping parts to fit your own bottles or we can supply bottles in an attractive modernistic style in Amber, Blue, Green, or Clear glass, complete with dropping parts, in the following sizes: ⅛, ¼, ½, 1 and 2 oz.



#2

Non-rolling extra-depth Bakelite cap; thick flange rubber bulb; special bent glass. (Calibrated in color).

• • • • •

WRITE FOR SAMPLES AND QUOTATIONS

PENNSYLVANIA
GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.

Patent THOUGHTS AND TRENDS

*by Thomas Cifelli, Jr.**

PATENT ATTORNEY

Bristol Labs. Tetracycline Patent

The U. S. patent situation on tetracycline got another fillip recently with the issuance of U. S. Patent No. 2712517 to A. Gourevitch and J. Lein as inventors and Bristol Labs. as owner.

Essentially, the Bristol patent covers the finding that the cost of producing tetracycline and derivatives such as chlortetracycline (Aureomycin) and 5-oxytetracycline (Terramycin) can be reduced by growing under aerobic conditions a culture of a tetracycline-producing species of Streptomyces in an aqueous, nitrogenous nutrient containing carbohydrate solution in the presence of a hydroxylated polyhydrobenzoic acid and derivatives thereof until substantial antibacterial activity is imparted to said solution. Increased yields of the desired products as faster rates are claimed.

Among the hydroxylated polyhydrobenzoic acids specifically mentioned in the patent are quinic acid, 5-dehydroquinic acid, shikimic acid and 5-dehydroshikimic acid.

Effective amounts of the precursors are said to be from 0.1 per cent to 5.0 per cent, preferably from 0.1 per cent to 0.5 per cent on the basis of the nutrient medium.

The inventors also described a novel organism, called Streptomyces viridifaciens, used in their process. A culture has been deposited in the American Type Culture Collection, Washington, D. C. and added to its permanent collection of microorganisms at ATCC 11989.

The trade press has speculated as to whether the issuance of this Bristol patent will have a direct bearing on settlement of the patent infringement suit brought by Chas. Pfizer against Bristol, Upjohn and Olin Mathieson in Atlanta. The Pfizer patent under which suit was brought is U. S. No. 2699054, issued to Conover, and covers the manufacture and use of tetracycline regardless of the process by which it is made.

It thus appears that even if Bristol's patented process results in a better commercial process the Pfizer patent dominates it. This statement assumes the validity of both patents.

Such patent situations are not uncommon and the time-honored manner in which such seemingly-insoluble conflicts have been solved is by some sort of a cross-licensing arrangement. The owner of the basic patent usually receives a royalty or other concession in return for a license to employ the improved process. The owner of the improvement patent usually receives the right to manufacture and sell the product itself. The public gets the benefit of the immediate use of the improved process which usually means lower prices.

Whether a cross-licensing arrangement or protracted patent litigation will be the story here depends on the decisions reached by the managements of the firms involved.

Patents, Trade-Marks in Foreign Markets

It is well-known that a U. S. patent only gives protection in the U. S. A. and its possessions. This leaves most of the world unprotected to the owner of a U. S. patent. The unprotected foreign area is an obvious magnet for U. S. business men, and more and more of them are entering this market. In particular, is this true of a large segment of the U. S. pharmaceutical industry. Its extensive and costly research programs and the high reputation its products enjoy throughout the world combine to make entry into the foreign drug market a natural one.

As is to be expected when a new venture is embarked upon, many new problems present themselves when foreign commercial exploitation of pharmaceuticals is undertaken. All countries have their own ideas and sets of rules regarding legal, economic, political, social and other matters. The U. S. pharmaceutical manufacturer going into the foreign field consequently is in for anything but a dull time. It might be of some help therefore to consider some of the patent and trade-mark problems he should be prepared to meet in the foreign markets.

In this connection the American Chemical Society has already performed a valuable service for the drug industry. At a recent national meeting two papers on this very subject were presented by experts in their respective fields. Leonard J. Robbins presented a paper entitled "Pharmaceutical Patents in Foreign Countries." Stephen P. Ladas gave a paper entitled "Pharmaceutical Trade-Marks in Foreign Countries."

The Robbins paper will be reviewed at this time and it is planned to do the same with the trade-mark discussion by Ladas next month. For permission to quote from both of these papers the writer's appreciation is expressed to the Chemical Society.

Mr. Robbins divided his subject into the following categories:

I. Pharmaceutical research and foreign patents
II. Publication and use, and the timing of foreign filing
III. Where to file foreign patent applications
IV. Product and process claims
V. Working and compulsory licensing
VI. Importation of products
VII. Patents for mixtures
VIII. Patents for antibiotics
IX. Selection of countries
X. Form of the foreign specification and claims
XI. What can be protected.

I. Pharmaceutical Research and Foreign Patents

It is pointed out that since successful research is costly and often can only be adequately sustained by an increase of production and sales, U. S. pharmaceutical manufacturers are turning more and more to foreign markets in order to supplement their basic U. S. markets. Since there is a need in foreign countries for U. S. products and know-how it

*Richards and Cifelli
Newark, New Jersey

Successful Merchandisers Know

she prefers containers by

IMCO*

You can rationalize all you wish about containers, but when you get down to facts your sales always depend on consumer preference.

Mrs. Consumer wants beauty, color, utility, and safety. And Imco plastic containers satisfy all of these demands, both at point of sale and in the home.

The proof lies in the growing list of successful products sold in IMCO containers.

May we help you solve your container problems?

IMCO CONTAINER CORPORATION . . . . . .

EMPIRE STATE BUILDING, RM. 6204
350 FIFTH AVE., NEW YORK, N. Y.

75TH AND CLEVELAND STREETS
KANSAS CITY 30, MISSOURI

*IMCO BOTTLES SHOW THE FLEXCEL® TRADE MARK

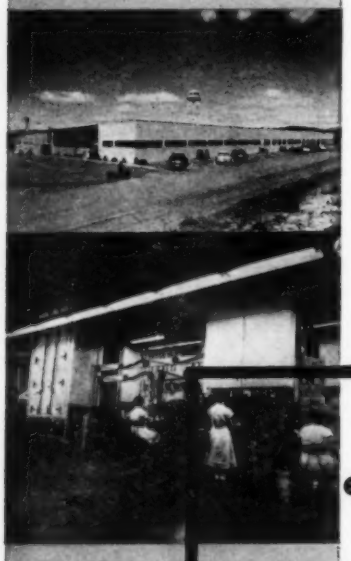
Three stories . . .

Machines . . .

Modern Equipment and Advanced Technique

Not an aim—but a fact—promised delivery of tubes and containers on time. A record with a 30 year history to say it's so.

A tour of the plant verifies this ability of Sun Tube to deliver when promised. Surprises you with continuous chains of tubes moving quickly, hygenically from one machine to the next. Accorded to be the most modern machines in the field. Meeting delivery with efficiency.



Minds . . .

Vigorous, Progressive, Young

Men with many years of buying experience have remarked on the alertness with which the men at Sun Tube effect new methods of production whenever a manufacturer is ready with a new package.

Example—this aerosol container—small enough, decorative enough to meet the demands of the cosmetic field.

Another example—the extension of decoration up over the shoulder of the tube—for a new selling-look in tubes.

Vigorous management and personnel. The energy, the ingenuity to move your package into reality.

Movement . . .

The Extra at Your Beckon

The pace of getting things done.

Engineers at your call—to materialize your specific packaging needs—fast.

Designers eager to work with you—to make your package stand out.

Factory men and women—knowing their jobs—working with the best in machinery and plants.

Administration—mindful of deliveries and quoted figures—the kind of administration that explains Sun Tube's 30-year reputation for the best.

All this is yours in every crisp, white delivery carton with the bright red letters—SUN TUBE.

ending in better packaging . . . Sun Tube

CORPORATION

HILLSIDE, NEW JERSEY

SUN TUBE CORPORATION, HILLSIDE, NEW JERSEY, Waverly 3-0400

St. Louis 1, Missouri: Marvin Yates Co., Arcade Building
Cincinnati 8, Ohio: Ralph H. Auch, 3449 Custer Road
New Orleans 19, Louisiana: R. P. Anderson Co., 925 N. Solomon Pl.
Houston 19, Texas: R. P. Anderson Co., 5643 Overbrook Lane
Lombard, Illinois: Delmar Ring, R.R. #1, Swift Road

Dallas 2, Texas: R. P. Anderson Co., 1122 Texas Bank Building
West Coast: Wm. J. Stoepker, 301 E. Colorado, Arcadia, California
Canada: Sun Tube Corp., 145 Spruce Street, Ottawa, Ontario
Mexico: Tubos de Estano, S. A. de C. V., 174 Oriente No. 267, Colonia Montezuma, Mexico, D. F.

thought that this trend will continue.

U. S. manufacturers have three principal reasons for obtaining foreign patents: (1) as assurance of the right to maintain imports, (2) as a source of revenue from licensees, and (3) as protection for manufacture by subsidiaries or affiliated companies.

II. Publication and Use, and the Timing of Foreign Filing

Inventors and clinical investigators are naturally anxious to publish their results as soon as possible. Management is always eager to market its new products as soon as possible also. These natural tendencies may result in destroying the possibility of securing valid foreign patents unless certain precautions are taken.

First and foremost, Mr. Robbins recommends that no publication or commercial use should take place *before* the patent application is filed. Although this may be harmless under the U. S. patent law for one year, this in general is not so in any other important country except Canada. Even after the U. S. patent applications has been filed

> "decisions concerning foreign filing, when to release publication, and when to permit use, must be made at appropriate times if full benefits are to be secured in the foreign field."

Mr. Robbins recognizes the dilemma in which the U. S. pharmaceutical manufacturer almost always finds itself when considering foreign filing and the balancing of costs against potential advantages. Under this subject he states

> "It may take several years after the filing date of a U. S. patent application to test a new product. Should foreign filing be delayed until it is certain the product is valuable? Even if there is no publication or use, such delay may be dangerous, since in view of competitive research, others may in the meantime have obtained dominating foreign patents. It is certainly safer to file within the priority year in Convention countries, and as promptly as possible in the non-Convention countries; once foreign filing has actually been effected, then any subsequent publication and use can have no harmful effect.
>
> "A given situation must be judged on its merits; the important thing is to be aware of the essential foreign provisions, so that any failure to obtain foreign protection will be deliberate, and not an unwelcome surprise."

III. Where to File Foreign Patent Applications

To this question there are no easy answers. If the invention relates to an improvement in a known process or a new product having only specialized uses it may well be that no foreign patent application at all may be warranted, or at most only a few selected countries where manufacturing licensees may be operating are indicated. On the other hand, if no foreign patents are obtained on an important new product such as a new antibiotic it could be copied in foreign countries, not only with unfortunate economic consequences to the U. S. originator but uncontrolled foreign competition can flood world market with poor quality material.

Nevertheless Mr. Robbins makes the following specific recommendation regarding countries which are indicated as the subjects of foreign applications. He states as follows:

> "Obviously for any new pharmaceutical product with important potentialities, the principal sources of foreign competition should be plugged with patents. As a practical matter, this means England and most of the European countries, Canada and certain Latin American countries, Japan, Australia, South Africa and India—ignoring the countries behind the Iron Curtain.
>
> "It is hardly a headline item that European manufacturers are developing world wide markets, and are building up foreign patent positions. In particular the German pharmaceutical industry is becoming very active abroad, especially in the Near East and Far East, and is also beginning to regain some of its pre-war influence in Latin America.
>
> "The U. S. manufacturer, thus faced with numerous problems of probable and possible competition abroad, can only apply the rule of reason when selecting foreign countries in which to file patent applications for a pharmaceutical invention—plus a certain amount of gambling instinct. Assuming that Convention priority is being claimed where possible, so that the decision is made less than a year from the U. S. filing date, it is usually far too soon to evaluate the true importance of the invention. If the product is good, infringers will look for loopholes; if it is unsuccessful the whole foreign patent program may be useless.
>
> "Three other factors must also be considered in selecting individual countries and determining the use and value of foreign patents—(i) the type of protection possible i. e. whether product and/or process claims are obtainable; (ii) the working provisions in foreign patent laws; and (iii) whether patents will preprevent importation of products. These will now be discussed."

IV. Product and Process Claims

This is a very important subject and should not be overlooked in any determination of foreign patent policy.

In the U. S., independent product claims for new pharmaceutical products not limited to their process of manufacture can be obtained. At the present time, except for just a few exceptions this is not true in foreign countries. Some believe that the interests of the public are best served by a broad monopoly in the product but others believe that a limited monopoly restricted to the product as made by the process actually disclosed is in the public interest.

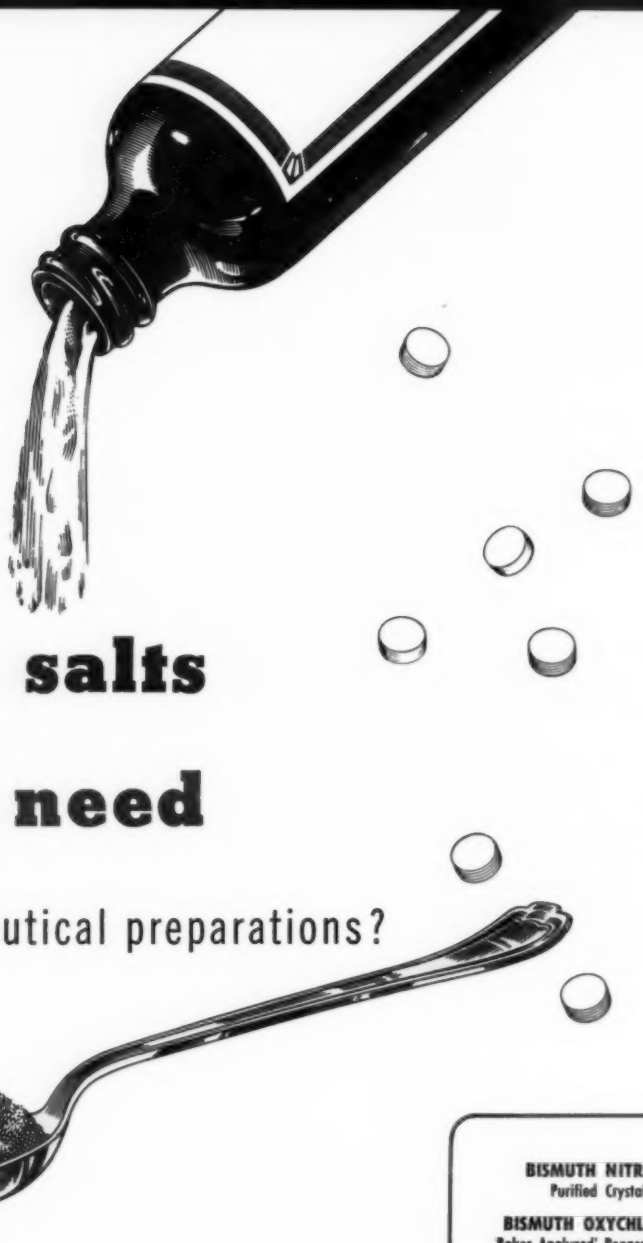
Switzerland, Italy and France have taken a rather dim view of patent protection on pharmaceutical products. Not only does Switzerland not permit any product protection in such cases but it only permits process protection as regards the making of one specific chemical or pharmaceutical product. An amended Swiss patent law permitting broad process claims may go into effect this year.

In France the grant of all pharmaceutical patents has been held up for many years. On this matter Robbins has the following to say:

> "Two opposing factions have been debating whether any protection whatever should be granted for pharmaceutical inventions. In the meantime the French Patent Office has required a declaration from all applicants in pharmaceutical cases that protection resides entirely in the process and not in the product. Apparently the die-hards have lost out, since recently a slow trickle of issued pharmaceutical patents has begun."

In Italy no pharmaceutical patents have been granted at all for 10 years, according to Robbins. The Italian

(*Continued on page* 276)



What bismuth salts do you need

for your pharmaceutical preparations?

You name the exact type of Bismuth Compound you need and the chances are J. T. Baker Chemical Co. can supply it—for Baker is a specialist in the production of a wide variety of Bismuth Salts of high chemical purity and precise physical specifications.

This high quality is available in a number of Bismuth Compounds (see list on this page), made especially for use in tablets, capsules, powder mixtures, ointments, or liquid suspensions.

Bismuth Salts are made from specially selected bismuth metal, reacted under close control. This careful processing is important when these salts are used as ingredients, or used as a starting point for the synthesis of organic bismuth compounds.

Many leading drug and pharmaceutical houses value Baker fine chemical purity and uniformity as a safeguard to the quality of their own products. If you are a user of Bismuth Salts or other fine chemicals where "Purity by the Ton" is required, may we send you samples and prices? Let us know your requirements.

J. T. Baker Chemical Co., Executive Office, Phillipsburg, N. J.

BISMUTH NITRATE
Purified Crystal

BISMUTH OXYCHLORIDE
'Baker Analyzed' Reagent Powder

BISMUTH SUBCARBONATE
Purified Extra Light Powder

BISMUTH SUBCARBONATE
U.S.P. Light Powder

BISMUTH SUBCARBONATE
U.S.P. Medium Powder

BISMUTH SUBCARBONATE
U.S.P. Heavy Powder

BISMUTH SUBGALLATE
N.F. Powder

BISMUTH SUBNITRATE
N.F. Powder

BISMUTH SUBSALICYLATE
U.S.P. Powder

Baker CHEMICAL

Baker Chemicals

REAGENT • FINE • INDUSTRIAL

NEWS . . .

Lund, Pres. of Lambert

Joel Y. Lund has been appointed president of Lambert Pharmacal division of Warner-Lambert Pharmaceutical Co., according to Alfred E. Driscoll, president. He was executive vice-president of Lambert Pharmacal in St. Louis before the merger of its parent company, the Lambert Co., with Warner-Hudnut, on April 1.

Mr. Lund will make his headquarters in Jersey City and will direct plants in New York City, Jersey City and St. Louis.

Klump to Head 1956 Forum

Dr. Theodore G. Klumpp, president of Winthrop-Stearns, Inc., and a vice-president of the National Health Council which annually conducts the National Health Forum, will be chairman of the 1956 Forum, to be held in New York City on March 21 and 22.

Sims Named Colgate President

William Lee Sims II has been elected president of Colgate-Palmolive Co., according to E. H. Little, chairman of the board. Ralph A. Hart has become vice-president of the firm and has also been elected to succeed Mr. Sims as president of Colgate-Palmolive International.

Mr. Sims has been with Colgate since 1924 when he joined the company as a salesman. He has been vice-president in charge of the firm's foreign operations since 1945, and executive vice-president since 1952.

Firmenich Villa Lent to Ike

Andre Firmenich, Chairman of the Board of Firmenich, Inc., and senior partner of Firmenich et Cie of Switzerland, lent his palatial villa on the shores of Lake Geneva to President Dwight D. Eisenhower as temporary "Little White House" during the Big Four Talks at Geneva.

During the conferences, Mr. Firmenich spent his time aboard his yacht, *Yliam I* = at Sandham, Sweden. While at this resort, Mr. Firmenich raced his yacht in the Jubilee Regatta of the 125th Anniversary of the Royal Swedish Yacht Club and won, for the third time, the International One Ton Cup in the six-meter class.

Whittaker Exec. Appointments

Wallace W. Roff has become executive vice-president of Whittaker, Clark & Daniels, Inc., and will also continue as a director. He had formerly been vice-president and sales manager.

John Seidler, formerly assistant secretary and assistant sales manager, has been named a director and general sales manager. He will continue as assistant secretary.

Robert G. Smith, formerly plant manager and regional division manager, is now director and assistant sales manager of the company.

ROBERT G. SMITH

WALLACE W. ROFF

JOHN SEIDLER

Plummer Named by Kimble Glass

Walter D. Plummer has been appointed sales promotion manager of Kimble Glass Co., according to E. Benson Dennis, Jr., vice-president and general sales manager. He succeeds Harlan Hobbs who has been promoted to vice-president of Glasco Products Co. Both firms are subsidiaries of Owens-Illinois Glass Co.

Safety Award to Pfizer

Chas. Pfizer & Co. received a safety award in June for its outstanding accident prevention record for five consecutive years. In each of the past three years the accident rate has been less than half of that reported by the National Safety Council for the chemical industry.

In recognition of this achievement, Dale Snure, resident vice-president of the Employers Mutual Liability Insurance Co. of Wisconsin, sponsor of the award, presented Pfizer with an inscribed silver trophy.

Pfizer was the first company, said Mr. Snure, to have been honored five consecutive years for having an outstanding safety record.

Bates, Pres., Solvay Division

Carlton Bates, executive vice-president of Solvay Process division of Allied Chemical & Dye Corp., has been appointed president. He succeeds A. B. Chadwick, who is retiring after 44 years of service.

Roche Appointments

Peter M. Madden has been appointed divisional sales manager of the Southern New England division, Hoffmann-La Roche Inc., with headquarters in Hartford, Conn.

Alexander Harmand has been named divisional sales manager of the Northern New England division, with headquarters in Boston.

Ciba Plans Medical Newspaper

Early in September Ciba Pharmaceutical Products Inc. is planning to begin publication of a bi-weekly newspaper which will be distributed exclusively to the medical profession. An eight-page, tabloid-size paper, entitled "*Medical News*," its purpose will be to give practicing physicians current news of developments here and abroad in the field of medicine and medical research.

Beautifies! Protects! Sells!

...quality packaging by SHELLMAR-BETNER

With so many exciting products to choose from, does your customer reach for your brand? She does, if it's attractively packaged, if she knows that your product will stay fresh and keep its high potency value. A package by Shellmar-Betner gives her that assurance.

At Shellmar-Betner we've had years of experience in drug and cosmetic merchandising, package design and quality printing. Our designers work with foil, acetate, polyethylene, vinyl—in fact, every type of flexible lamination. They are skilled in flexographic and gravure printing, too. And the tougher the job, the better they like it.

So remember the name, Shellmar-Betner. Call us to talk over your packaging problems.

Our Fiftieth Year of Tailor-Made Packaging

CONTINENTAL CAN COMPANY

SHELLMAR-BETNER

FLEXIBLE PACKAGING DIVISION

MT. VERNON, OHIO

Sales Offices in Principal Cities

Arch, V.P., Sheffield Tube

Charles E. Arch, head of the Chicago office, has been appointed a vice-president of the Sheffield Tube Corp.

Visit Warner-Chilcot Labs.

A 3-member delegation from Memmingen, West Germany, sponsored by the State Department, visited the Morris Plains, N. J., borough hall, inspected the Warner-Chilcott plant, and officially affiliated their city with Morris Plains.

In the visiting group were Dr. Heinrich Berndl, Mayor of Memmingen; Dr. Maximilian Dietrich, editor and publisher of the *Memmingen Zeitung;* and Eugen Oppitz, a councilman of Memmingen.

Morris Plains was represented by Mayor James W. Fear and Councilmen Griffith C. Humphrey and G. R. Mills. E. Roth Janes, vice-president and director of operations, was present on behalf of Warner-Chilcott while James C. Chilcott, vice-chairman of the board of directors represented the parent firm, Warner-Lambert, as well as Paul R. van der Stricht, vice-president of Warner-Lambert International, and his assistant, Otto von Bolschwing.

The cultural and educational affiliation of Morris Plains and Memmingen is based on a close economic relationship between Warner-Chilcott and a Memmingen firm, Goedecke & Co. Chemical Laboratories, which manufactures Warner-Chilcott drugs in Germany under license from that firm.

New Plant for Owens-Ill.

Owens-Illinois broke ground on July 12 in Portland, Ore., for a glass container manufacturing plant which is expected to be one of the most modern of its kind in the United States. The operation is scheduled for completion in August, 1956, and will consist of four buildings, including a main factory, warehouse, batch house and compressor building.

Among those taking part in the ground-breaking ceremonies were the following Owens-Illinois officials: Smith L. Rairdon, vice-president and director of marketing; Kenneth C. White, vice-president and general sales manager of the Pacific Coast division; Eliot R. Owens, division general factories manager; Walter Funke, chief engineer on the Pacific Coast who will manage the new plant when it is completed; Brad K. Holbrook, project engineer; H. A. Knudsen, Portland, sales branch manager; L. Richardson, Seattle manager; and J. E. Humphrey, Yakima manager.

CHARLES E. ARCH

HAROLD V. LEE

Reger Promoted by Lederle

Vernon P. Reger, formerly district manager in Houston, has been named assistant manager of prices and quotations for Lederle Laboratories division, according to Henry Wendt, Jr., director of sales.

He was one of those who this year received Lederle's Gold Cup, an award made annually for outstanding sales achievement.

Promoted by Amer. Alcolac

Edwin G. Jacobi has been appointed general sales manager of American Alcolac Corp., according to John E. Andre, executive vice-president. In chemical sales management for the past 12 years, he will now make his headquarters in the New York office, Empire State Building, and will be in charge of the other sales offices of American Alcolac in Chicago, Baltimore and Montreal.

Lee Named V.P., G. Barr

Harold V. Lee has been elected vice-president of G. Barr & Co. in charge of the New York City plant, according to George Barr, president. He will be in charge of all plant operations, including the development laboratory as well as production and sales.

Laist Represents N. Y. Q.

H. R. Laist Co., San Francisco, took over on August 1 the distribution of the full line of fine chemicals, including vitamins and narcotics of New York Quinine and Chemical Works, succeeding W. M. Gillies & Co. It was felt that a consolidation of sales and service functions of both S. B. Penick & Co. and N. Y. Q. lines would afford more economical and faster service to N.Y.Q. accounts in California, Oregon and Washington. H. R. Laist was selected because of its long connection with S. B. Penick & Co.

Left to right: Paul R. van der Stricht, vice-president, Warner-Lambert International; James C. Chilcott, vice-chairman of the board, Warner-Lambert; Dr. Heinrich Berndl, Mayor of Memmingen, Germany; Dr. Maximilian Dietrich, editor and publisher, *Memmingen Zeitung;* Eugen Oppitz, councilman of Memmingen; and James W. Fear, Mayor of Morris Plains, N. J., watching operation of Peritrate packaging line in Warner-Chilcott Laboratories' plant at Morris Plains.

THE CHINESE MERCHANT PRINCE

In a far-off land a merchant prince by the name of Fray Grins had received all three blessings . . . he was wealthy, healthy and wise. His sons went to the best schools, his daughters married the most eligible men, his wife had the most sparkling jewels, and he, himself, collected rare editions of esoteric books.

Fray Grins' wealth came from the manufacture and sale of perfumes. His packages were masterpieces, his perfumes were known throughout the world,and the wealth of Fray Grins, like the proverbial Break-The-Bank, grew and grew, and grew. But all things must end and so, too, did his life at the august age of eighty four less two moons. His eldest son took over and decided that profits must be larger. A little less perfume here, a little cheaper oil there and "qui sait" as the French say.

The firm of Fray Grins no longer bought from the best houses. Then they no longer bought from any house—they went out of business. And the sparkling jewels and the rare editions were sold to the highest bidders.

• • •

If there be a moral to this tale we would conclude that it is "Shortcut in Quality is False Economy". . . Yet we would be bold to say that at Syntomatic we feel there is a practical parallel in combining top quality with true economy. Prove it? Our pleasure . . . Syntomatic Corporation, 114 East 32nd Street, New York 16, New York. MUrray Hill 3-7618.

Lentheric Names Advg. Mgr.

Frederick Q. Swackhamer has been appointed advertising manager of Lentheric division of Olin Mathieson Chemical Corp., according to Jack H. Mohr, general manager of the division.

New Advg. Depts. for Upjohn

The Upjohn Co. has created three new advertising departments, according to W. F. Allen, vice-president and director of sales, which will be under the supervision of J. C. Gauntlett, director of advertising.

Richard P. Trubey, advertising department, will handle direct mail, professional journal advertising, veterinary advertising and all medical exhibits.

John Deal, sales promotion department, will take care of displays, point-of-sale material, and informational and descriptive literature for distribution by the sales force.

Donald T. Meredith, trade and guest relations department, will be in charge of plant visits by individual pharmacists and physicians and groups, as well as the company's pharmacy and medical student programs.

All of these departments are part of the regular sales division of Upjohn.

Prill Advanced by Union

Joseph P. Prill, formerly assistant sales manager of Union Pharmaceutical Co., has been appointed field sales manager, according to Max A. McDaniel.

Exec. V.P., Crown Cork

George W. Crabtree, vice-president of Crown Cork & Seal Co., and general manager of its can division, has been elected executive vice-president of the company, according to Russell Gowans, president. The general managers of the company's five operating divisions will report directly to him.

GEORGE CRABTREE

Rojas, V.P., Witco Chemical

Henry W. Rojas has been appointed vice-president of export marketing, Witco Chemical Co., according to Max A. Minnig, executive vice-president, and will take charge of all present international operations of the company.

He was formerly with American Cyanamid Co. for the past 21 years, most of the time as export manager of the industrial chemical division and manager of the dyes and chemicals department of the Cyanamid Interamerican Corp.

Lilly Exec. Changes

Thomas P. Carney, formerly director of the organic chemicals division, Eli Lilly & Co., has become vice-president of research, development and control. He has been succeeded by Reuben G. Jones as director of organic chemicals.

A. H. Fiske, vice-president and member of the executive committee, has relinquished his responsibilities in the development and control division in order to devote full time to the study of special projects as an assistant to the president.

THOMAS P. CARNEY

Dr. R. M. Rice has been named executive director of medical research, and J. A. Leighty has become executive director of chemical, biological, and pharmacological research.

Jefferson Chem. Appoints

Jefferson Chemical Co. has appointed the following to its operations department staff: L. R. Strawn, manager, manufacturing division; M. H. Holmes, manager, Neches plant; A. K. May, sales manager; P. R. Monaghan, manager, technical service division; Dr. N. A. Agapetus, manager, distribution division; Dr. L. G. Boatright, manager, market development division; and J. J. Glover, assistant to the vice-president, operations.

HENRY W. ROJAS

Pfizer Names Purchasing Dir.

Frank J. D'Antonio, assistant purchasing agent since 1927, has been appointed director of purchases by Chas. Pfizer & Co., according to Herman A. Poitras, vice-president for production. He succeeds William W. Atkinson who retired July 1 after 49 years with the firm.

V. Eric Johnson has been promoted to plant purchasing agent at Pfizer's Brooklyn installation.

Hon. Degree to Bristol

Lee H. Bristol, Jr., advertising manager of Bristol-Meyers products division, and president of the Laymen's movement for a Christian World, received the honorary degree of Doctor of Humanities at Commercement Exercises of the Los Angeles Conservatory of Music and Arts on June 6.

New Chicago Office for Squibb

E. R. Squibb & Sons broke ground for a new half-million-dollar building in Franklin Park, Ill., on June 21. This one-story brick structure, in a west-side suburb of Chicago, will house Squibb's Chicago branch office, including warehouse space.

The building is expected to be completed by January 1, 1956, with the title to the property being held by the Lincoln National Life Insurance Co. of Fort Wayne, Ind. The latter will lease the completed structure to Squibb under a long-term arrangement.

The company has been established at 427 W. Randolph St., Chicago, for the past 26 years.

Paul A. Freeman is Chicago regional sales manager, while Fred S. Haslach, Jr., is branch manager; John Matthews, North Chicago division manager; and Robert Salzman, South Chicago division manager.

Hyland Moves Eastern Office

Hyland Laboratories last month moved its eastern branch office to larger quarters at 252 Hawthorne Ave., Yonkers, N. Y., according to Fred W. Marquart, president. The office remains under the direction of Frank C. Inman, manager for the past four years.

Kessler Named by Ciba

Wesley D. Kessler has been appointed professional hospital representative for Ciba Pharmaceutical Products in the San Francisco area, including Oakland and Berkeley, according to Vincent A. Burgher, vice-president in charge of sales. He had formerly been a professional service representative in the San Francisco area in Ciba's western division.

Stepan Exec. Appointments

Dr. David B. Hatcher has been appointed vice-president and general manager of Stepan Chemical Co. and William von Dielingen, vice-president in

DR. DAVID B. HATCHER

charge of production, according to Alfred C. Stepan, president. Both have also become directors.

Sausville with Givaudan

Townsend J. Sausville has joined the sales staff of Givaudan Flavors Inc. and will represent the company in the New York-New Jersey area, according to Hans P. Kessler.

Bowles, Exec. V.P., Whitehall

Elliott A. Bowles, vice-president, has been promoted to executive vice-president of the Whitehall Pharmacal Co., according to William F. Laporte, president. Prior to joining Whitehall in 1950, Mr. Bowles had been president of Union Pharmaceutical Co.

WILLIAM VON DIELINGEN

Heads Advertising Club

G. Harold Fritzlen, executive assistant advertising manager, Abbott Laboratories, has become president of the Midwest Pharmaceutical Advertising Club. Additional officers include Richard H. Best, advertising manager, Kremers-Urban Co., as vice-president; John J. McKean, executive vice-president, Borcherdt Malt Extract Co., treasurer; and O. M. Onesty, western manager, *American Druggist*, secretary.

Pharm. Mkt. Research Elects

Mitchell Chadrjian, manager of Schering Corp.'s management research department, was recently elected president of the Pharmaceutical Market Research Group during its final meeting

MITCHELL CHADRJIAN

of the season in New York. He succeeds Paul G. Hacker, director of sales control at Hoffmann-La Roche. At the same time, Geral Hunt, Hoffmann's assistant director of sales control, was named secretary.

Mumford, Exec. V.P., Lever

Milton C. Mumford, vice-president, has been elected executive vice-president of Lever Brothers Co., according to William H. Burkhart, president.

Griffin Retires—P-M

Oran B. Griffin retired last month from Pitman-Moore Co., after 47 years as a salesman. Except for the first year and a half which he spent in plant operations, he has traveled the same East Central Indiana territory as a medical service representative during his long association with the firm.

J. T. Baker 25-Year Club

J. T. Baker Chemical Co. recently held the first meeting of its newly formed Quarter Century Club at the Country Club of Northampton County, New Jersey. Eighty-two charter members were present. In addition, all Baker employees with over 20 years of service, plus members of the board of directors and officers, attended as guests. Husbands and wives of the Club members and guests were also invited. After the reception and dinner, Ralph A. Clark, vice-president in charge of sales, outlined the objectives of the Club, and then Dr. J. R. Stevens, vice-president in charge of operations, presented each charter member with an attractive service pin designed by J. E. Williams.

Dr. J. R. Stevens and R. A. Clark presenting service pin to George A. Fisher at first meeting of J. T. Baker Chemical Co. Quarter Century Club.

Roure-Dupont, Inc.

PLEASE ☞
TURN THE PAGE

ANTICIPATED SHORTAGE

and resultant higher prices for the new crop of Neroli may make it advisable for you to study our well known time tested specialties with this base for new formulations and prevent problems.

OIL DISTILLED TYPE

NEROLI INVAR:
Synthetic oil rich and powerful—Can be used to cut Neroli and to replace it chiefly in concentrates for cologne.
This product is very powerful and very lasting.

NEROLI 417:
Interesting reproduction of the natural oil, fresh and floral at very low price.

ABSOLUTE TYPE VOLATILE SOLVENT

ORANGE "O" SYNTHETIC:
Has the same characteristic as the Absolute Orange flower obtained by processing the Orange Flower Water.

ORANGE SYNTHETIC:
Has the same characteristic as the Orange Flower obtained by processing the flowers with the volatile solvents.

Since 1820

ROURE-DUPONT, INC.

Sole Agents for the United States and Canada for
ROURE-BERTRAND FILS et JUSTIN DUPONT, Paris, Grasse

CHICAGO
510 North Dearborn

HOLLYWOOD
5517 Sunset Blvd.

366 Madison Avenue, New York
• VANDERBILT 6-5830 •

Appointed by Toni

The Toni division of the Gillette Co. has added three men to its staff of advertising brand managers, according to Stuart K. Hensley, vice-president in charge of advertising and brand promotion.

Ed Wolfe, formerly in the sales and sales promotion departments, is assuming brand responsibilities for White Rain Lotion Shampoo.

Jack Cophar, formerly with Armour & Co., is now responsible for Pamper Liquid Shampoo.

Albert Pawlick is directing brand promotion on Bibbi Pin-Curl Permanent as advertising brand manager.

Promoted by Amer. Home

Gilbert S. McInerny has been elected secretary of American Home Products

GILBERT S. McINERNY

Corp., according to Alvin G. Brush, chairman of the board. He was formerly general attorney for the company.

Racemics Elects New Officers

G. W. Larson, American Cyanamid Co., was elected president of "The Racemics," a three-year-old organization whose members are almost equally divided between representatives of purchasing and sales activities within the chemical industry. A. J. Dimick, West Virginia Pulp and Paper Co., was named vice-president, and C. G. Lewis, American Tobacco Co., secretary-treasurer.

Other officers of the firm are Basil L. Emery, vice-president and assistant to the president; Robert C. Fuller, vice-president in charge of production and research; Edward Lane, vice-president in charge of sales; Albert B. Richardson, vice-president in charge of advertising; George Elliott, treasurer; Charles E. Klein, comptroller; add Frank J. McGroarty, secretary.

Fiedler on Schering Staff

Dr. Frank G. Fiedler has been appointed veterinarian in the experimental pathology and veterinary medicine department of Schering Corp. He had formerly been assistant professor of veterinary surgery and radiologist at the University of Pennsylvania.

ARCHIE H. McCALLUM

Freund with A. H. Robins

Dr. Jack Freund has been named associate director of clinical research of the A. H. Robins Co., according to E. Claiborne Robins, president.

Warner-Lambert Expansion

Warner-Lambert Pharmaceutical Co. will begin construction of a new main headquarters in Morris Plains, N. J., in September. Containing 87,000 square feet, including an allowance for future needs, the $2—million structure will be completed in the late spring of 1956.

The company began preliminary work last month in Lititz, Penna., on an up-to-date, L-shaped building which was designed especially for cosmetic and toiletry manufacturing. This construction is expected to be completed by June 1, 1956, according to L. A. Flagler, vice-president for manufacturing, with an additional period of three months necessary for moving in and setting up equipment.

The new research building in Morris Plains is scheduled for readiness in December and will subsequently house the New York staff of Warner-Chilcott Research Laboratories, the Lambert Research group in St. Louis and the Hudnut cosmetic research department now in New York.

Two affiliates outside the United States are also expanding their facilities —Warner-Lambert, S.A., in Cuba is constructing a new building in Havana, and Warner-Lambert is building a new plant at Eastleigh, Hampshire, England.

Thompson Celebrates 10th Year

Marvin R. Thompson, Inc., marked its 10th anniversary on July 15, at which time an anniversary party was held on the Thompson estate in Stamford, Conn. All executives, employees and research associates attended.

Strong Cobb Promotions

Richard A. Herbine has been promoted to general superintendent of manufacturing and laboratory operations, Strong, Cobb & Co. He had formerly been assistant general superintendent of the Cleveland plant.

Archie H. McCallum, with the company for five years in production operations, has been appointed assistant general production superintendent.

RICHARD A. HERBINE

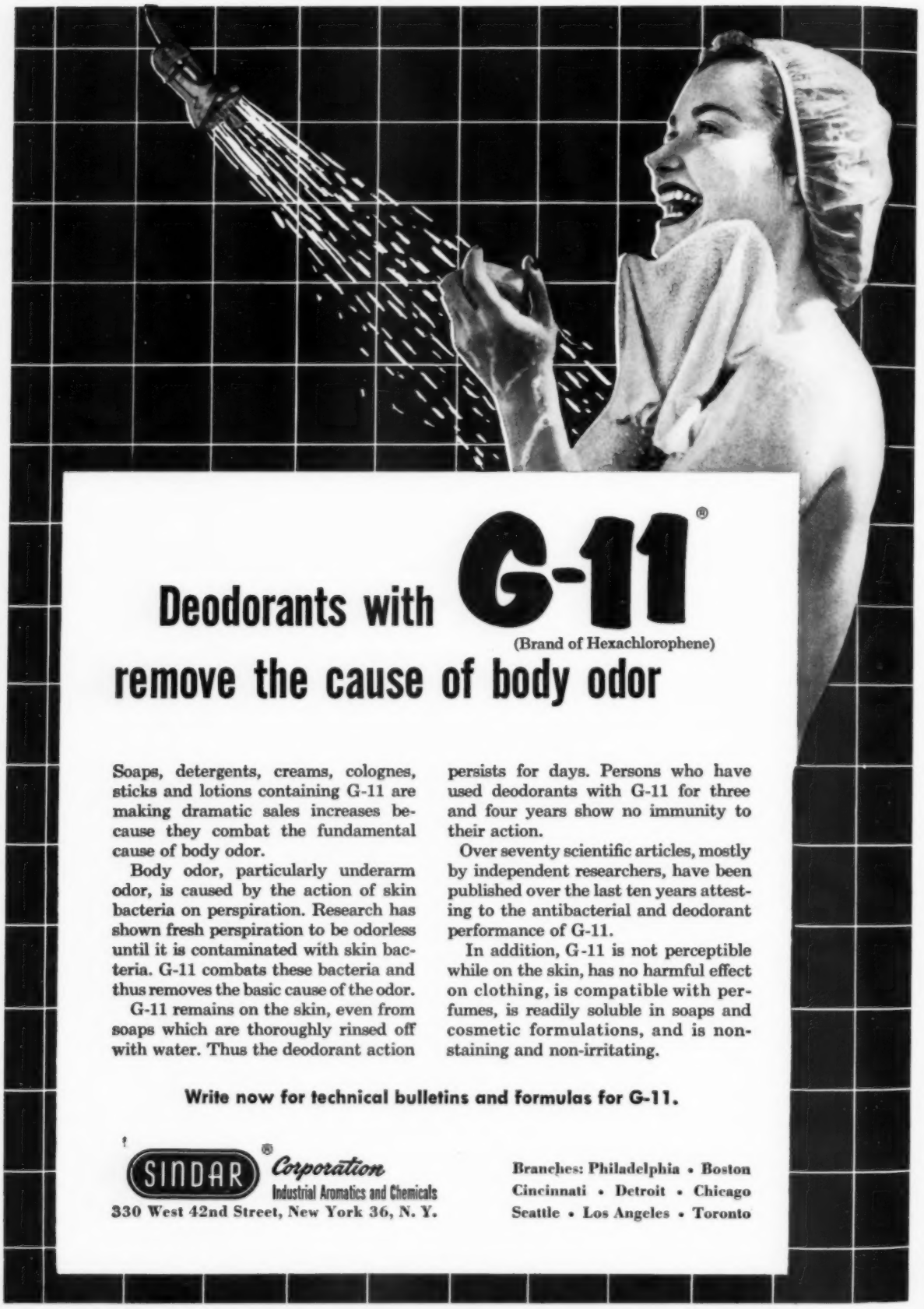
Parke, Davis Appointments

J. H. Fritts, a sales representative in Chattanooga, has been promoted to field manager in the St. Louis branch of Parke, Davis & Co., according to Carl Johnson, U. S. and Canadian sales manager. He will work under the supervision of B. L. Donaldson, St. Louis branch manager.

Harry E. Stevens has been appointed field manager in the Chicago branch, succeeding J. A. Bendry who was recently named hospital medical service supervisor.

Scherer Buys Kath Co.

R. P. Scherer Corp. has acquired the entire assets of the Kath Development & Manufacturing Co. of Cleveland. The company was previously a subsidiary of Strong Cobb & Co. A. W. Kath joined Strong Cobb three years ago to set up the subsidiary which last December announced a new machine which was said to be capable of producing hard shell capsules at a higher rate than ever before.



Deodorants with G-11®

(Brand of Hexachlorophene)

remove the cause of body odor

Soaps, detergents, creams, colognes, sticks and lotions containing G-11 are making dramatic sales increases because they combat the fundamental cause of body odor.

Body odor, particularly underarm odor, is caused by the action of skin bacteria on perspiration. Research has shown fresh perspiration to be odorless until it is contaminated with skin bacteria. G-11 combats these bacteria and thus removes the basic cause of the odor.

G-11 remains on the skin, even from soaps which are thoroughly rinsed off with water. Thus the deodorant action persists for days. Persons who have used deodorants with G-11 for three and four years show no immunity to their action.

Over seventy scientific articles, mostly by independent researchers, have been published over the last ten years attesting to the antibacterial and deodorant performance of G-11.

In addition, G-11 is not perceptible while on the skin, has no harmful effect on clothing, is compatible with perfumes, is readily soluble in soaps and cosmetic formulations, and is non-staining and non-irritating.

Write now for technical bulletins and formulas for G-11.

SINDAR® *Corporation*
Industrial Aromatics and Chemicals
330 West 42nd Street, New York 36, N. Y.

Branches: Philadelphia • Boston
Cincinnati • Detroit • Chicago
Seattle • Los Angeles • Toronto

Russell Promoted by Bristol

Lester P. Russell has become manager of sales promotion of Bristol Laboratories, according to Richard A. Anderson, vice-president and director of marketing.

Chesebrough-Pond Appointments

Arthur B. Richardson has been named chairman of the board and Jerome A. Straka, president and chief executive officer, of Chesebrough-Pond Inc. The merger of the two companies, Chesebrough Manufacturing Co. and Pond's Extract Co., was approved by the stockholders on June 27.

In addition to Mr. Richardson and Mr. Straka, who were chairman and president, respectively, of Chesebrough, Clifford M. Baker, Pond's former board chairman, has become vice-chairman of the board, and Lloyd V. Young, formerly president of Pond's, has been elected senior vice-president of the merger. Mr. Young will also be president of the subsidiary company handling the foreign operations of Chesebrough-Pond's Inc.

Foster, Exec. V.P., Olin

William C. Foster, former Deputy Secretary of Defense and president of the Manufacturing Chemists' Association, Inc., has become an executive vice-president of Olin Mathieson Chemical Corp., according to Thomas S. Nichols, president.

Mathis to Write on Vitamins

Jack H. Mathis, president of the State Pharmacal Co., Chicago, is scheduled to write a series of newspaper articles explaining the importance of vitamins. His decision to write the columns resulted from the many inquiries on the subject received by State Pharmacal, manufacturers of "All-In-One" vitamin capsules.

Jefferson Headquarters in Tex.

Jefferson Chemical Co. has transferred its headquarters offices, and about 50 employees, from New York to Houston, according to George R. Bryant, president. Offices are located in the Mafridge Building, 411 Fannin Street.

The company's main plant is at Port Neches, Texas, and the research laboratory, at Austin. Sales offices are maintained in New York, Chicago, Charlotte, North Carolina and Houston.

Appointed by Reilly Tar

Raymond E. McGrath has become manager, and Vincent J. Hall, assistant manager, of the combined Chicago plant and sales office of Reilly Tar & Chemical Corp., according to P. C. Reilly, vice-president. Along with his new position, he will continue to serve as general traffic manager.

Promoted by Calif. Container

Thomas F. Cass, formerly vice-president in charge of folding carton and boxboard properties, has been promoted to senior vice-president of California Container Corp., a subsidiary of Container Corp. of America. He will be responsible for West Coast corrugated and solid fibre shipping container properties as well.

Sulkowitch with Gray Pharm.

Dr. Hirsh W. Sulkowitch, former research physician of the Lahey Foundation, Boston, has been appointed scientific director of the Gray Pharmaceutical Co., He will be responsible for all research including the development of new products.

DR. HIRSH W. SULKOWITCH

Burgin Appointed MM&R

Miller S. Burgin, who represented Magmus, Mabee & Reynard, Inc., in the South from 1947 to 1953, has been appointed to cover the states of Missouri, Kansas, Nebraska, Colorado and Utah. His headquarters will be in Kansas, Mo.

Named Lentheric Marketing Dir.

William G. Ohme has been appointed director of marketing of the Lentheric division, Olin Mathieson Chemical Corp., according to Jack H. Mohr, general manager of the division. He was formerly advertising manager of Lentheric.

Burke with Miller Labs.

William E. Burke has been appointed sales manager for the E. S. Miller Laboratories. He has been in the pharmaceutical field about 15 years, most of this time having been division manager of Ayerst Laboratories in the Chicago area.

WILLIAM E. BURKE

Jones in Gair Plastafol Post

Christopher P. Jones has been appointed sales manager of the Plastafol department, folding cartons division, of Robert Gair Co.

CHRISTOPHER P. JONES

Faberge Acquires Marglen

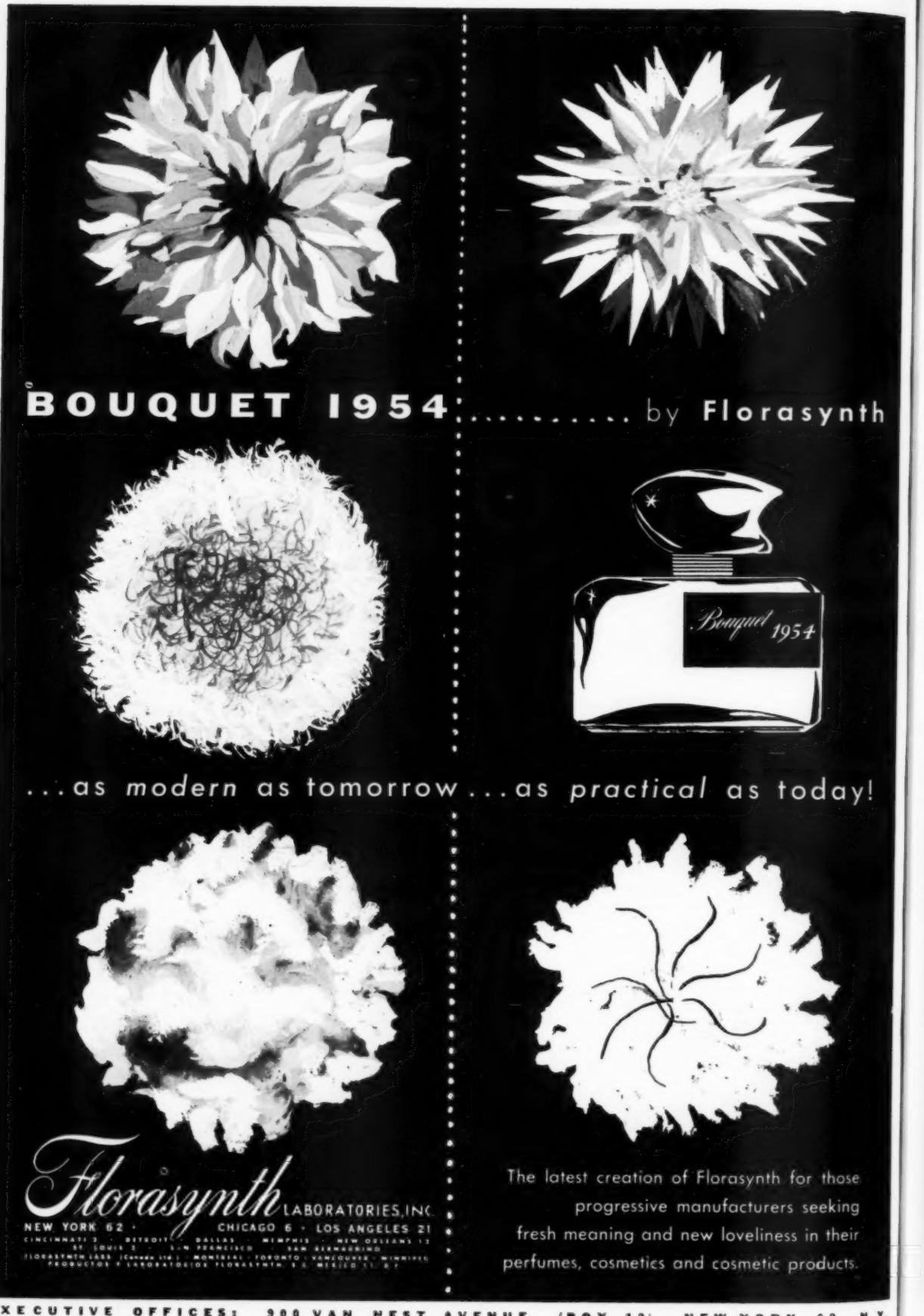
Faberge Perfumes Inc. has bought control of Juliette Marglen, Inc., according to Samuel Rubin, Faberge president, who said that management of Juliette Marglen remains unchanged.

Wyeth Promotions

Lee J. Hymel, Chicago division manager since 1949, has become assistant sales manager of Wyeth Laboratories, according to Stuart V. Smith, vice-president.

He has been succeeded in his former post by Donald E. Gilliland.

Eli E. Main, district manager in Cleveland, has become division manager in that area.


BOUQUET 1954 ..... by Florasynth
Bouquet 1954
...as modern as tomorrow ...as practical as today!
Florasynth LABORATORIES, INC.
NEW YORK 62 • CHICAGO 6 • LOS ANGELES 21
The latest creation of Florasynth for those progressive manufacturers seeking fresh meaning and new loveliness in their perfumes, cosmetics and cosmetic products.

EXECUTIVE OFFICES: 900 VAN NEST AVENUE (BOX 12) NEW YORK 62, N.Y.

Bendry Promoted by P-D

Joseph A. Bendry has been promoted to hospital medical service supervisor for Parke, Davis & Co., according to Graydon L. Walker, vice-president and director of U. S. and Canadian sales and promotion. Field manager in the Chicago branch since 1947, he will now have his headquarters in Rochester, Minn.

Kamplain Promoted by Lilly

Frank E. Kamplain has become manager of Eli Lilly & Co.'s tissue culture processing department and will be responsible for all manufacturing steps in the processing of polio vaccine. He has been with Lilly for 13 years and for the last year has been assistant manager of the tissue culture processing department.

Join Ciba Advertising Div.

Eric L. Northrup and Allen V. Puccini have been appointed to the advertising division of Ciba Pharmaceutical Products Inc., according to Paul W. Roder, advertising vice-president. They have become senior copywriter and assistant planning co-ordinator, respectively.

Lisaius Promoted by Schering

Joseph I. Lisaius, formerly new products coordinator for the domestic sales division at Schering Corp., has become merchandizing coordinator for domestic sales.

Sterling Drug Promotions

Frederick A. Tilston, vice-president in charge of sales, Sterling Drug Mfg. Ltd., has been appointed to the newly created position of vice-president in charge of marketing and customer relations, according to Ralph W. Henderson, president.

Arch J. Galloway, assistant sales manager, has become general sales manager.

Pacini Named V.P.

Dr. August J. Pacini has been appointed vice-president in charge of research for the Pearson Pharmacal Co. and the Vita Laboratories, Inc.

Szmal with Schering

Dr. Chester J. Szmal has been appointed clinical research physician in the clinical research division of Schering Corp., according to Dr. Edward Henderson, vice-president and director of clincal research.

Dr. H. Sheridan Baketel

Dr. H. Sheridan Baketel, co-founder and editor-in-chief of *Medical Economics*, died July 7 in St. Davids, Penna. at the age of 83. He established the magazine in 1923, having previously been editor of *Gaillard's Medical Journal* and *The Medical Times*.

DR. H. SHERIDAN BAKETEL

He was Professor of Preventive Medicine at Long Island College of Medicine from 1915 to 1931 and president of the American Pharmaceutical Manufacturers' Association from 1929 to 1931.

Dr. Baketel had also been president of Reed & Carnrick since 1925.

Surviving are his wife, Mrs. Corinne P. Fellers Baketel; a son, H. Sheridan Baketel Jr., a granddaughter, and three great-grandchildren.

Sylvain Fontanes

Sylvain Fontanes, partner and managing director of Givaudan & Cie., Paris and Lyons, France, an associate company of Givaudan-Delawanna, Inc., died suddenly on July 27. He had been connected with the company for more than 55 years and was a pioneer in the development of the synthetic aromatic chemical industry in Europe. Mr. Fontanes devoted his entire life to the perfume and toiletries field and was an honorary president of the National Syndicate of French Manufacturers of Synthetic Aromatic Chemicals.

SYLVAIN FONTANES

Ferdinand J. Beyer

Ferdinand J. Beyer, executive vice-president of P. R. Dreyer Inc., New York, died July 4 in Hohokus, N. J. Mr. Beyer, who was 61 years old, was associated with Dreyer since 1934, having previously been with George Lueders & Co., and Antoine Chiris Co.

Mr. Beyer is survived by his widow, Delia; a son, Daniel A., who is a salesman with Dreyer; and two grandchildren

New Consulting Service

Di Cyan & Brown has established a new service which will record worldwide conditions of health and disease and chart the type of pharmaceutical product and its forms which will most likely meet acceptance abroad. This service is called the International Survey for Pharmaceutical Development.

The firm will be assisted in the preparation of reports by a group of experienced personnel, obtaining information from its contacts with medical observers and public health officers in many parts of the world.

This service, according to Di Cyan & Brown, will enable manufacturers to develop pharmaceutical products in line with the special therapeutic needs of a particular country and in keeping with its therapeutic customs.

Flavor Chemists Nominations

The Society of Flavor Chemists held its last meeting for the year 1954-1955 in June, at which time the following officers were nominated: Jack Bouton, president; Charles Fricke, vice-president; Jerry De Genova, secretary; L. G. Strasburger, treasurer; Fred Schumm, board member; H. Shore, publicity director; and Dr. A. Wendt, program committee chairman.

Vought with Bristol Labs.

Dr. Robert L. Vought has joined Bristol Laboratories Inc. as associate medical director, according to Dr Charles H. Mann, vice-president and medical director, and will make his headquarters at 630 Fifth Ave., New York.

Brockway Glass Appointments

E. C. Faust and G. R. Hollen have been appointed assistants to the general sales manager of Brockway Glass Co. They will both continue their present duties in the planning and control division.

THERE'S
Design

FRAGRANCE TOO!

A new perfume must be carefully designed to do its special job well. Thoughtful consideration must be given to... the intended market...the name and promotional appeal... the package and proposed price level.

When selecting your new fragrance, seek the advice of the van Ameringen-Haebler staff...designers of the finest in perfume materials.

MANUFACTURERS AND CREATORS OF THE FINEST PERFUME MATERIALS

van Ameringen · Haebler, Inc.

521 WEST 57th STREET NEW YORK 19, N. Y.

Tongue-Tingling "FLAVOR APPEAL"

The successful proprietary or pharmaceutical specialty must have it! When the taste-buds favor the flavor, the chance for continued use of the preparation by the consumer is materially stepped up.

Whether it's liquids, powders, *or tablets,* you can depend on PENICK OPTIMO IMITATION FLAVORS. Their taste-appeal is close to Nature's own. Of quality-selected raw materials, they are laboratory-controlled at every step of manufacture. Compatibility with other ingredients, penetration power, stability at varying temperatures and shelf-life are other assets of OPTIMO FLAVORS.

May we send you our latest flavor catalogue?

Basic Products for the Pharmaceutical Industry

S. B. PENICK & COMPANY

50 Church Street, New York 8, N. Y. Telephone COrtlandt 7-1970
735 West Division Street, Chicago 10, Ill. Telephone MOhawk 4-5651

Hydro-Mugal

The ideal lily of the valley base,
smoother than cyclamen aldehyde,
more floral than Hydroxy Citronellal.

Stable in alkali

Non-irritating

Non-discoloring

Write us on your firm's letterhead for a sample of this versatile perfume material.

schimmel & co., inc.

601 West 26th Street, New York 1, New York

Your FLAVOR SUPPLIER *is a* SPECIALIST

He performs important services for you.

He knows what type of flavor will appeal to the public.

He has a practical knowledge of your manufacturing requirements.

He is trained to help you to improve your products and develop new ones.

Leading flavor houses have been using ZIMCO, the Original Pure Lignin Vanillin for many years.

They report, "There is nothing finer."

Sterwin Chemicals INC.
SUBSIDIARY OF STERLING DRUG INC.
1450 Broadway, New York 18, N.Y.
2020 Greenwood Ave., Evanston, Ill.

WORLD'S LARGEST SUPPLIERS OF VANILLIN

For the drug and cosmetic industries

from specialists in essential chemicals from hydrocarbon sources . . .

THESE three highest-quality Jefferson Chemicals are produced at Jefferson's modern plant at Port Neches, Texas . . . shipped from conveniently located warehouses at Houston, Chicago, and Tenafly, New Jersey . . . and backed by basic research conducted at Jefferson's expanded research center at Austin, Texas. Most important, though, is this: they're produced by *specialists in essential chemicals from hydrocarbon sources.*

And they're finding a growing number of applications throughout the drug and cosmetic industries—applications such as:

- shampoos
- oil emulsions
- wax polishes
- cleansing creams
- hand creams
- brushless shaving soaps
- dry cleaning soaps
- surface active agents

Jefferson Monoethanolamine, Diethanolamine, and Triethanolamine are available now, for prompt shipment, in tank cars, tank wagons and 55-gallon drums—or in samples for preliminary investigations.

Our Technical Service staff will be happy to help you in your present or future use of Ethanolamines.

Jefferson
CHEMICAL COMPANY, INC.
411 FANNIN STREET, BOX 303, HOUSTON 1, TEXAS

Branch Sales Offices: Chicago, Houston, Charlotte, New York
West Coast Sales Agent: Nelson A. Howard, Jr., Los Angeles
Plant: Port Neches, Texas
Other Stock Points: Chicago, Houston and Charlotte; Port Reading and Tenafly, New Jersey

- Ethylene Oxide, Glycols, Dichloride
- Ethanolamines
- Nonyl Phenol
- Morpholine
- Ethylene, Propylene and Glycerine Carbonates
- Polyethylene Glycols

CAREFULLY CONTROLLED POTENCY MAKES 'PROLOID' EFFECTIVE IN THYROID THERAPY

Stokes pharmaceutical equipment used to mix, granulate, tablet and coat wide range of pharmaceutical products at Warner-Chilcott Labs.

Proloid, one of the important products of Warner-Chilcott Laboratories, Morris Plains, N. J., is an improved drug for thyroid therapy. Carefully extracted, tested and blended to provide matched metabolic potency and iodine content from batch to batch, this drug is tabletted in precise dosages on Stokes tabletting machines.

Stokes is the foremost supplier of pharmaceutical equipment to the industry . . . has had more than 50 years' experience in the design and application of equipment for every stage of pharmaceutical manufacture. This unequalled background is made freely available to all manufacturers through the Stokes Advisory Service and Laboratory. A full description of how this unique service can help you is contained in Catalog 640, describing the Stokes Laboratory and Advisory Service. The complete line of Stokes Pharmaceutical Equipment is presented in Catalog 601. Write for both today.

F. J. Stokes Machine Company
Philadelphia 20, Pa.

STOKES

OFFICES IN PRINCIPAL CITIES
REPRESENTATIVES THROUGHOUT THE WORLD

PRECISE, CONSISTENT DOSAGE is one of the features of Proloid, one of the many pharmaceutical products of Warner-Chilcott Labs made on Stokes tablet machines.

Management Forum

by Francis Chilson

INDUSTRIAL CONSULTANT

Budgeteers

Many people applauded my recent satire on budgeting. Of course I got blistered by a few fanatical budgeteers who accused me of trying to destroy an important management tool. It is significant however that the controllers who really understand practical budgeting applaud my efforts because the spotlight is turned on fanatical budgeteers who have little vision and less sense. I know the value of budgeting. I used to design budget systems. I have never undertaken a job without preparing a budget for it. But I'm a middle of the road man; I fight shy of extremes in anything. These things I am sure of:

That never in the history of the drug or the cosmetic industry did a firm fail because it lacked an adequate budget system.

Never in the history of the drug or the cosmetic industry did a firm succeed because it had a proper budget system.

Success in the drug and cosmetic industries is based upon good finances, good marketing, good products, good management and good luck, in that order. The first four beget the last.

I object to a plethora of excessively detailed records and forms; I object to the wastage of a lot of executive time in preparing budget estimates and in post mortems when performance fails to meet promise.

I particularly object to budget procedures which are primarily focused upon the factory management as many if not most of them are. Gobs of money are spent in advertising and other marketing procedures, which if it is budgeted at all, is budgeted in big chunks with little or no detail. And usually when the marketing department flops or overspends its budget there is no post mortem at all. Actually there is no difference between working capital and invested capital. It's all money.

But because the manufacturing division's expenditures are tangible, as for instance, the purchase of capital equipment, inventories and labor, these expenditures are easy to measure and to break down into details ad infinitum. Hence the poor slob in charge of manufacturing is constantly harried by the budgeteers. I know of many organizations in which the plant manager is unable to spend as little as $50.00 without obtaining an authorization from the finance committee. He must make out forms to show what budget the expenditure applies to and, if the item had not been budgeted, he must make out still other forms to show why it was not. We talk a lot about developing executive talent by delegating responsibility and then we take away one of the basic responsibilities: the authority to spend the company's money without reference to anyone outside the division. Many plant managers are nothing more than clerks and are so bedevilled by routine paper work that they rarely have time to get out into the plant where they belong. To many accountants it is more important to have paper work come through on schedule than it is to have production coming through on schedule. Years ago when I was a plant manager, the plant manager was expected to make expenditures within his division without reference to anybody. He didn't have to refer his requirements to a bunch of clerks.

Fads and Fancies

We Americans are an enthusiastic bunch, and, as I have said here before we'll hoot and holler about any new "ism" so long as it has a catchy name like "automation" and particularly if we don't understand it. Our understanding is in inverse proportion to our enthusiasm. Let's look at our industrial history since 1912.

This year marked the birth of the efficiency expert. Fredrick W. Taylor had published his epoch making book on time study and piece rates. Then we were off. Every operation had to be time studied and rated. Piece work was the key note. Piece work was tried on everything from digging ditches to typing. If you didn't

WHAT'S NEW WITH COLTON?

THREE PRESSES IN ONE

The only multiple-layer tablet press featuring 1 or 2 or 3 layer tablets at 1300 per minute with simple conversion to standard double rotary operation at 2600 tablets per minute. The special efficiency of a special machine plus the everyday versatility of a standard machine—insurance against obsolescence in event of future changes in product. Write for details on Colton No. 243 Tablet Press.

Machine is for use with your straight line production conveyor. Demonstration conveyor illustrated is not standard.

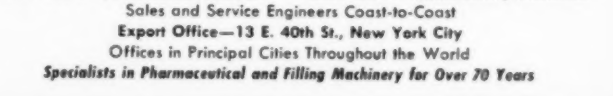
FOUR FILLERS IN ONE

Simple conversion to 4-6-8 or 12 spouts, with extra manifolds —no size change parts required within any of these multiples —160 to 480 fills per minute in most shapes and sizes up to 4 fl. oz., glass or plastic. Fully automatic. Ask for details on Colton Multiple Liquid Fillers.

ARTHUR COLTON COMPANY

DIVISION SNYDER TOOL & ENGINEERING COMPANY
3523 E. LAFAYETTE • DETROIT 7, MICHIGAN
PLANT NO. 2—500 BELLEVUE, DETROIT • PLANT NO. 3—MANCELONA, MICHIGAN
Sales and Service Engineers Coast-to-Coast
Export Office—13 E. 40th St., New York City
Offices in Principal Cities Throughout the World
Specialists in Pharmaceutical and Filling Machinery for Over 70 Years

Write for complete details on these new Colton machines. Find out why THE NEW INSTALLATIONS are COLTON.



have a piece rate system you weren't in the swim. The efficiency expert was born and waxed rich. One of them, Bedaux, made tens of millions. Some of them are still making millions. One of them in Chicago has put efficiency work on a mail order basis and hooks suckers by the thousands.

There was nothing wrong with time and motion study as a means of operation analysis. There was nothing wrong with establishing a piece rate or bonus system when the rates were established on a practical basis and upon the right operations. Time after time I have thrown out rate and incentive systems because they were based upon the wrong premises and by changing the layout or introducing the tools and equipment that are standard in the trade, it was possible to multiply production even with hourly rates of pay. This does not alter the fact that there is much good in incentive systems when they are established upon correct bases on amenable operations—such as manual work that cannot be mechanized either through lack of volume or intricacy of assembly.

Nineteen fourteen marked the beginning of cost accounting. Armies of cost clerks were recruited. Tens of thousands of tons of forms were devised. It was not unusual to find in a relatively small business a dozen cost clerks all busy scribbling and making clerical errors by the million. People sweated for years through detailed job cost systems and finally it began to dawn on management that standard products produced in a standard way on standard equipment should always cost the same, so then standard cost systems evolved.

The first world war forced upon us a tremendous industrial expansion which demanded new employees so rapidly that it was no longer possible for department heads to recruit their own forces, so the employment manager was born. Originally his job was to hire help. The foremen did the firing. Sometimes he acted as paymaster. But being merely an employment manager wasn't enough to suit the pioneers. They began to take over other activities, first aid, the lunch room facilities, employee activities. As they broadened their scope they had to have more clerks and assistants. There's nothing like more help to build your job up in importance in the eyes of the management. So now we have personnel managers with large staffs, including doctors, and nurses and phrenologists and other analysts. Cost is no object.

We went from standard cost to budgeting with wild enthusiasm. Budgeting was it and it would enable you to keep within bounds so that on a predicted volume of business you would be sure of a given profit. At first budgets were fixed. If anticipated or budgeted sales increased sharply there was no provision for increasing necessary expenditures. Tens of millions of dollars of executive time has been and is being wasted on crystal ball gazing to make up guesstimates for the budgets and tens of millions of executive man hours have been wasted explaining to committees why actual expenditures went over budgets.

So much hell has been raised because performance failed to match budget that there is a widespread practice of loading the budget so that the performance will will be less than the budget. Also there is the practice of "swapping" wherein charges in one category are charged to other budgets so that they will balance out. Still as I have said elsewhere budgeting is a sensible practice when it is carried out sensibly.

Now we've got automation. I shiver when I think of the tens of millions that will be wasted by management's everywhere on this catchword—this fancy name for an old practice. We'll waste millions making the manufacture of products and products automatic that had better be left alone. We'll "automatize" the production of some products to such an extent that by the time it is done, the product will be obsolete. But that's us—U. S. We like catchwords and slogans. The slicker the better. And we'll pay for them, believe me! At the three recent drug conventions three of the speakers referred to the part to be played by automation in the future and not one of them, I am sure, had the faintest notion of the real meaning of the word.

This I Believe . . .

Sometimes a kind of glory lights up the mind of a man. It happens to nearly everyone. You can feel it growing or preparing like a fuse burning toward dynamite. It is a feeling in the stomach, a delight of the nerves, of the forearms. The skin tastes the air, and every deep-drawn breath is sweet. Its beginning has the pleasure of a great stretching yawn; it flashes in the brain and the whole world glows outside your eyes. A man may have lived all of his life in the gray, and the land and trees of him dark and somber. The events, even the important ones, may have trooped by faceless and pale. And then—the glory—so that a cricket song sweetens his ears, the smell of the earth rises chanting to his nose, and dappling light under a tree blesses his eyes. Then a man pours outward, a torrent of him, and yet he is not diminished. And I guess a man's importance in the world can be measured by the quality and number of his glories. It is a lonely thing but it relates us to the world. It is the mother of all creativeness, and it sets each man separate from all other men.

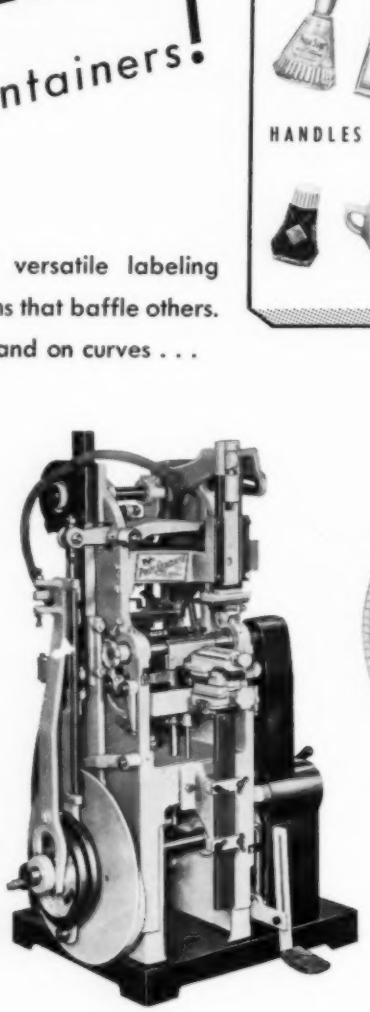
I don't know how it will be in the years to come. There are monstrous changes taking place in the world, forces shaping a future whose face we do not know. Some of these forces seem evil to us, perhaps not in themselves but because their tendency is to eliminate other things we hold good. It is true that two men can lift a bigger stone than one man. A group can build automobiles quicker and better than one man, and bread from a huge factory is cheaper and more uniform. When our food and clothing and housing all are born in the complication of mass production, mass method is bound to get into our thinking and to eliminate all other thinking. In our time mass or collective production has entered our economics, our politics, and even our religion, so that some nations have substituted

The ONE LABELER

that handles all containers!

Time and again this versatile labeling machine solves problems that baffle others. Registers precisely on panels, in recesses, and on curves . . .

TWO JOBS IN ONE OPERATION! The Pony Labelrite applies a three-side label that also *seals* the container . . .



Accurate labeling that exactly fits the recess in bottom of the plate.

No matter how different your *next* product may be in shape or style of label, the production man, as well as the Sales department *knows* it can be handled on the equipment you already have . . . if its

the PONY LABELRITE®

Ask to see the Movies!

536

NEW JERSEY MACHINE *Corporation*

AUTOMATIC LABELING • PACKAGING — PAPER BOX MACHINERY • MAKERS OF THE PONY LABELRITE

FACTORY SALES AND SERVICE BRANCHES
CHICAGO, CINCINNATI, LOS ANGELES

MAIN OFFICE & FACTORY: 1550 WILLOW AVENUE, HOBOKEN, N. J.

the idea collective for the idea God. This in my time is the danger. There is great tension in the world, tension toward a breaking point, and men are unhappy and confused.

At such a time it seems natural and good to me to ask myself these questions: What do I believe in? What must I fight for and what must I fight against?

Our species is the only creative species, and it has only one creative instrument, the individual mind and spirit of a man. Nothing was ever created by two men. There are no good collaborations, whether in music, in art, in poetry, in mathematics, in philosophy. Once the miracle of creation has taken place, the group can build and extend it, but the group never invents anything. The preciousness lies in the lonely mind of a man.

And now the forces marshaled around the concept of the group have declared a war of extermination on that preciousness, the mind of man. By disparagement, by starvation, by repressions, forced direction, and the stunning hammerblows of conditioning the free roving mind is being pursued, roped, blunted, drugged. It is a sad suicidal course our species seems to have taken.

And this I believe: that the free, exploring mind of the individual human is the most valuable thing in the world. And this I would fight for: the freedom of the mind to take any direction it wishes, undirected. And this I must fight against: any idea, religion, or government which limits or destroys the individual. This is what I am and what I am about. I can understand why a system built on a pattern must try to destroy the free mind, for this is one thing which can by inspection destroy such a system. Surely I can understand this, and I hate it and I will fight against it to preserve the one thing that separates us from the uncreative beast. If the glory can be killed, we are lost.

—*John Steinbeck* (*East of Eden*)

Americans and Russians

There are at the present time two great nations in the world, which started from different points, but seem to tend toward the same end. I allude to the Russians and the Americans. . . .

The American struggles against the obstacles that nature opposes to him; the adversaries of the Russian are men. The former combats the wilderness and savage life; the latter, civilization with all its arms. The conquests of the American are therefore gained by the plowshare; those of the Russian by the sword. The Anglo-American relies upon personal interest to accomplish his ends and gives free scope to the unguided strength and common sense of the people; the Russian centers all the authority of society in a single arm. The principal instrument of the former is freedom; of the latter, servitude. Their starting-point is different and their courses are not the same; yet each of them seems marked out by the will of Heaven to sway the destinies of half the globe."—*Alexis de Tocqueville in "Democracy in America,"* 1835. (*Alfred A. Knopf.*)

The American Future

"I cannot say that I am in the slightest degree impressed by your bigness, or your material resources, as such. Size is not grandeur, and territory does not make a nation. The great issue, about which hangs a true sublimity, and the terror of overhanging fate, is what are you going to do with all these things? . . . Forty millions at your first centenary, it is reasonably to be expected that, at the second, these states will be occupied by two hundred millions of English-speaking people, spread over an area as large as that of Europe, and with climates and interests as diverse as those of Spain and Scandinavia, England and Russia.

You and your descendants have to ascertain whether this great mass will hold together under the forms of a republic, and the despotic reality of universal suffrage; whether state rights will hold out against centralization, without separation; whether centralization will get the better, without actual or disguised monarchy; whether shifting corruption is better than a permanent bureaucracy; and as population thickens in your great cities, and the pressure of want is felt, the gaunt specter of pauperism will stalk among you, and communism and socialism will claim to be heard. . . . The one condition of success, your sole safeguard, is the moral worth and intellectual clearness of the individual citizen."—*Thomas H. Huxley in a speech at Johns Hopkins University in 1876. From "Apes, Angels, and Victorians," by William Irvine.* (*McGraw-Hill.*)

Super Cooler for Algin

The Algin Corporation of America has installed a 10,000 pound per/hour "Superplate" Cooler in their Rockland, Maine, plant which it is using successfully in the manufacture of stabilizers for the food and drug industries.

The products, Carrageen extracts (Irish moss), are "flash" cooled by the "Superplate" from 175° F. to 113° F., using 150 gals. per/min. of 95° F. water.

The jell point of the products is 103° F. Formerly using internal tube equipment for cooling, they had difficulty with jelling on the walls of the tubes, resulting in the loss of cooling efficiency and product. The Superplate has eliminated this difficulty.

The Company markets Alginates and Carrageenates as stabilizers for mixes, chocolates, gelatin desserts and pharmaceuticals.

The Superplate is manufactured by the Cherry-Burrell Corporation. Further information may be secured by writing the firm at 427 W. Randolph Street, Chicago 6, Illinois.

Automatic Bagging Scale

A new six-page, two color bulletin, offered by Richardson Scale Co., describes and illustrates the company's E-50 automatic bagging scale.

MENNEN MAKES BOTTLING EASY-

with PNEUMATIC machines

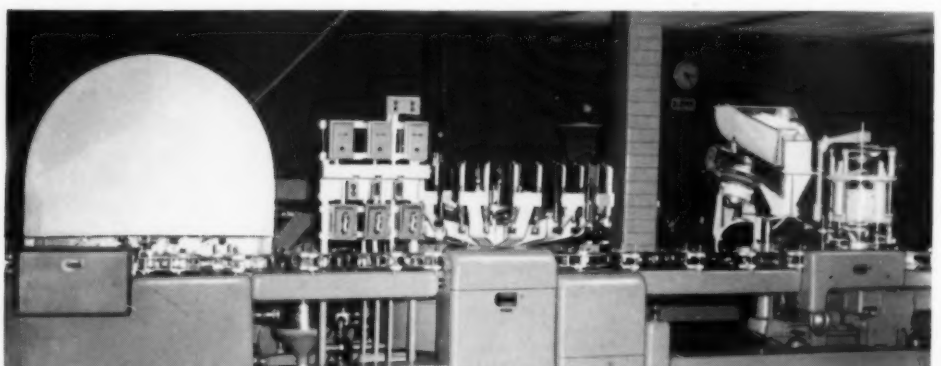
"made for each other"

WHAT MENNEN's got is close to automation — a conveyor synchronized Pneumatic bottle cleaner, filler and capper! Capable of handling open-mouth as well as all glass sprinkler top bottles and the most delicately molded closures, it terminates in a fully automatic labeler capable of front and back simultaneous application.

and this tension is maintained in day in and day out production.

The filler will fill light and heavy liquids equally well, alcoholic as well as oil base. It is designed for quick and thorough cleaning between fills on different products.

All of the equipment is designed to "go together" in a balanced, highly efficient, high



A synchronous drive keeps the three machines, cleaner, filler and capper "in step" and in exact synchronism. The bottles pass from cleaner to filler and filler to capper without a hitch, and on spaced centers beyond the cleaner discharge.

Rounds, rectangles, or oval bottle sections are handled with ease. The capper is equipped with Sterling Cap Feeder especially designed for positive feeding without ever a possibility of breaking or marring.

The capping machine is equipped with sensitive chucks pre-set to any desired tension

productive rate unit. The brilliantly cleaned containers are exactly filled to the same height without dripping or messy spillage, screw caps are accurately and positively applied and the labels beautifully adhered to the containers without muss or misregistration. We'll gladly mail technical bulletins on any or all of this equipment — just write.

PNEUMATIC SCALE CORP., LTD., 70 Newport Ave., Quincy 71, Mass. *Also: New York; Chicago; Dallas; San Francisco; Los Angeles; Seattle; Leeds, England. Canadian Division: Delamere & Williams Company, Ltd., Toronto.*

★PNEUMATIC *Packaging and Bottling Equipment*

Designed for high-speed bagging with consistent weighing accuracy, the E-50 has a normal capacity range of 5-lb. to 25-lb. or 25-lb. to 50-lb. It weighs and fills open-mouth paper or textile bags with fertilizer, feeds, grain, rock products, chemicals, food products, tobacco and variety of similar materials.

Besides a complete description of the bagger, the bulletin includes fourteen photographs and an engineering drawing showing top, front and side views. Three line drawings illustrate suggested feeding arrangements for granular, powdered and pellet-size materials.

The bulletin describes such accessories as feeders, bagholders, sewing conveyors, sewing pedestals and packers. Specifications and optional features are outlined, and the bulletin lists some 140 products that the E-50 has handled effectively.

For copies of Bulletin No. 3749A, write to Richard Steensma, Richardson Scale Co., Van Houten Ave., Clifton, N. J.

"Handraulic" Filter Press Closing Device

A new type, manually operated hydraulic closing device for filter presses has been developed by D. R. Sperry and Company, filtration engineers.

Called the "Handraulic," this new closing device is of such a design that it requires no additional support or foundation and therefore can be added to existing filter presses in the field, without alterations, re-boring, or removal of any plates. The "Handraulic" replaces the filler block and is locked in position with the slide head by the cap screw provided. Weight and rod are assembled to the filler square. The original manual closing device remains in position as a stand-by unit.

The "Handraulic" Closing Device is also available as original equipment on new Sperry Filter Presses.

In operation, the "Handraulic" provides a high power-to-work ratio, increasing the efficiency of filter press closings and openings. Hydraulic power, maximum pump leverage, and pressure gauge control minimizes the operator's job to the extent that less effort and less operators are required.

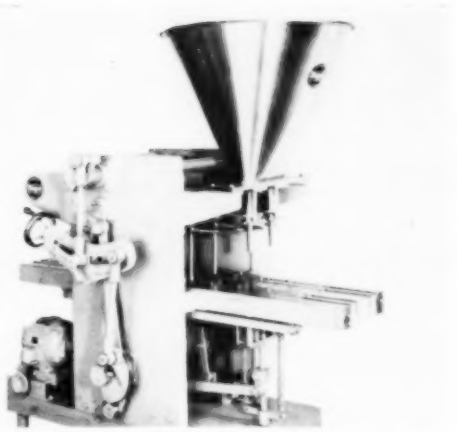
In cleaning, the "Handraulic" Closing Device swings horizontally out of position to allow the slide head to be moved back, thus providing maximum working space for cleaning the filter press.

Complete specifications on the "Handraulic" Closing Device are available upon request to the manufacturer, D. R. Sperry & Company, Batavia, Illinois.

New Heavy Duty Filling Machine

Hope Machine Company, 9400 State Road, Philadelphia 14, Penna., announces a new Type 198 Filling Machine available in One or Two Line Models. Fabricated Steel construction throughout with ball bearings on all main shafts make it a fast, rugged, low cost floor model unit. It is equipped with "No Container-No Fill" unit, removable feed bars, and stainless steel table plates.

Quick change-over for quantity and containers without repositioning pistons or other parts, nozzles for dripless bottom-up fill, and special hoppers for agitation make it a versatile machine ideal for filling Foods, Cosmetics, Adhesives, Inks, etc.



Drying Terramycin

Installation of new equipment for drying Terramycin at the Groton, Conn., plant of Charles Pfizer & Co., Inc., has resulted in additional savings of this valuable product, the company announces.

In considering revisions of the drying phase for the manufacture of this antibiotic, Pfizer was faced with two problems. They knew that material could be saved if another method of drying could be found. Forced air drying created losses of product and necessitated use of elaborate dust collection systems.

Due to the dynamic growth and sweeping changes which occur in the pharmaceutical industry, the company also had to consider the short range economics of the problem. Savings had to be sufficient to overcome early obsolescence.

Solution to the problem was provided by the Buflovak Equipment Division of the Blaw-Knox Company, Pittsburgh, makers of process equipment for chemical and allied industries. At the Buflovak Research Laboratory, Buffalo, New York, a series of tests were made on various Terramycin products. Normally, these Terramycin products, which are sensitive to high temperatures, contain as much as 70 per cent moisture. They must be dried so as to contain less than three per cent water.

Test results and economic studies indicated that a 5 x 30 foot stainless steel Buflovak Vacuum Rotary Drier should be installed. The drier was put into operation in September, 1954.

To eliminate the necessity of using high temperatures to vaporize liquids in the material being dried, the unit was designed to operate at a vacuum of 28.8 to 29.15 inches of mercury. Both the drier shell and agitator shaft are heated to 140° by circulating hot water.

In operation, the unit is charged from the top. The filter cake normally contains 70 per cent moisture and is tumbled at 2 r.p.m. by the heated agitator blades.

CHECK
the advantages
before you put your money on any other
FILTER, MIXER, or MIXING TANK

Check and compare the specifications—the advantages, and see for yourself. There's a big difference in design, in construction features, in workmanship. There's a difference in performance and service that means better, faster, labor saving operations.

Let us send you a copy of our 32 page catalogue that illustrates and describes the Alsop complete line of Liquid Processing Equipment. You'll be impressed with their proved performance feature, you'll see why—it pays to buy—ALSOP FILTERS, MIXERS and MIXING TANKS.

ALSOP FILTERS, MIXERS and MIXING TANKS
ALSOP ENGINEERING CORPORATION
1008 Cass Street Milldale, Conn.

ALSOP ENGINEERING CORPORATION
Filters, Filter Discs, Pumps, Tanks, Mixers, Agitators

At no time does the temperature of the Terramycin exceed 80° F. Product tumbles out through two quick-opening doors in the bottom of the drier.

The test data assembled from experiments at the Buflovak Research Laboratory indicated that 12 hours would be required to dry one batch. Pfizer however, was pleased to report that this job actually took less than 10 hours in the 5 x 30 foot stainless steel Buflocak Drier.

Small Labeler for Short-Run Packaging

A small Potdevin Label Paster is used for applying glue to varied size labels at Merck and Co., Inc., for short runs of special chemicals. In the Packaging Department containers of varied sizes filled with pharmaceuticals, reagent chemicals—both liquid as well as powder—are quickly labeled and sent on their way.

The Potdevin coating machine applies an overall adhesive to the printed label and delivers the label to the waiting hand of the operator. The printed side of the label remains perfectly clean while the coated side provides overall adhesion to cling firmly to the containers.

These small Potdevin machines (Potdevin Machine Co., Teterboro, N. J.) are also used in the Sterile Products Department for labeling orders requiring small runs. The machine is extremely light and can be carried to the work.

Automation in Marking Devices

Today, automatic machines, in all branches of industry and business, speed production and cut costs.

While automation is still an experiment in some fields, in marking devices it is an accomplished fact with the Krengel Rotary Coder.

Engineered of heavy gauge steel for high-speed precision operation, the Krengel Rotary Coder automatically prints names, dates, codes, or other identification. Just set it and forget it. Powered by a friction roller attachment, the Rotary Coder imprints on boxes, cartons, packages, cases, any kind of surface. Its self-inking feature assures you of clear, clean, sharp impressions every time.

The Krengel Rotary Coder is completely automatic with but one exception. Someone does have to affix the rubber type or die that will reproduce the imprint wanted. This is done quickly and simply with Krengel Baselock Interchangeable Rubber Type. It is available in all point sizes and fonts in sets of letters or figures, deep-cut for sharpness and long service.

Full information about automation in marking devices, the Rotary Coder, and Baselock Type are available from the manufacturer, Krengel Manufacturing Co., Inc., 227 Fulton Street, New York 7, New York.

The Tubar Dumper

A new low-cost, mobile hydraulic unit, designed to empty or transfer the contents of one container into another, is manufactured by Uhrden, Inc., Dennison, Ohio.

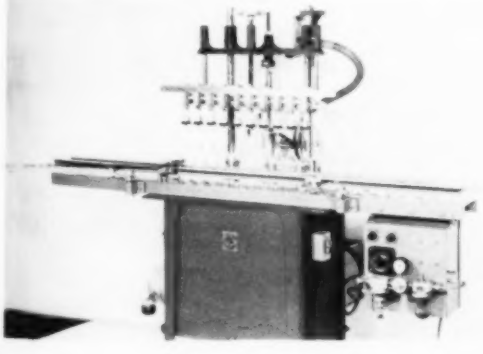
This noteworthy advancement in materials handling —identified as the Tubar Dumper, is engineered with an accent on speed, stability, efficiency and safety. It is especially designed to meet a mounting demand for a unit of this type in machine shops and paint, chemical, petroleum, rubber, food, drug, electrical, foundry, glass, and distilling operations.

Semi-Automatic Bottle Filling Machine

Perl Machine Mfg. Co. Inc., 68 Jay St., Brooklyn 1, N. Y., announces production of a new semi-automatic bottle filling machine equipped with an electro-pneumatic auto-timer. The machine operates at a touch of the button without foot pedals or hand levers, the filling valves are automatically lowered into the bottles, the bottles filled to pre-set levels with utmost accuracy, and the valves are then lifted ready for the next group of bottles. Even the most unskilled operator immediately attains full production speed without danger of overflow and with absolute uniformity of filling levels.

The demand for this new method has been so great, that the Perl auto-timer is now being made available for use and installation on any make straight line bottle filling machine.

The machine illustrated, Model COS-K, is a semi-automatic machine equipped with the electro-pneumatic auto-timer, and operates by vacuum or gravity filling, in a range of sizes with filling speeds from 20 to 100 bottles per minute.



LOOK TO US FOR EVERY

LIQUID FILLING REQUIREMENT

and profit by more than two generations of liquid filling experience. The U.S. line covers a wide range of liquid filling machines for automatic, semi-automatic and hand-filling operations. With this wide choice of Fillers, you need not compromise your production to fit a machine; instead, basic U.S. machines are custom-engineered to fit your specific production . . . and usually at a saving.

Model B-2 Vacuum Filler

provides efficient continuous production, filling two containers at a time. Handles a wide variety of liquids and semi-liquids. Has automatic product supply; vacuum is adjustable and flow regulated for accurate, clean filling. Fills a wide range of containers up to 4¼" dia. round or rectangular. Send for Bulletin B-2.

The U.S. Siphon Filler

is a highly efficient machine. Stainless steel filling tubes and glass lined tank. Handles all types liquids; all containers. Fills without overflow or spillage. Send for Siphon Bulletin.

Model B-49 Straightline Vacuum Filler

for liquids and semi-liquids. Most automatic one-operator multiple filler. Operates with or without discharge conveyor. Filling proceeds automatically while empties are loaded. Easy operating lever activates container feed and discharge; otherwise operation is completely automatic. Adjustable for container sizes from AGST to gallon size finishes. A dependable machine where filling cost is a factor. For full details, send for Bulletin B-49.

U. S. BOTTLERS MACHINERY COMPANY

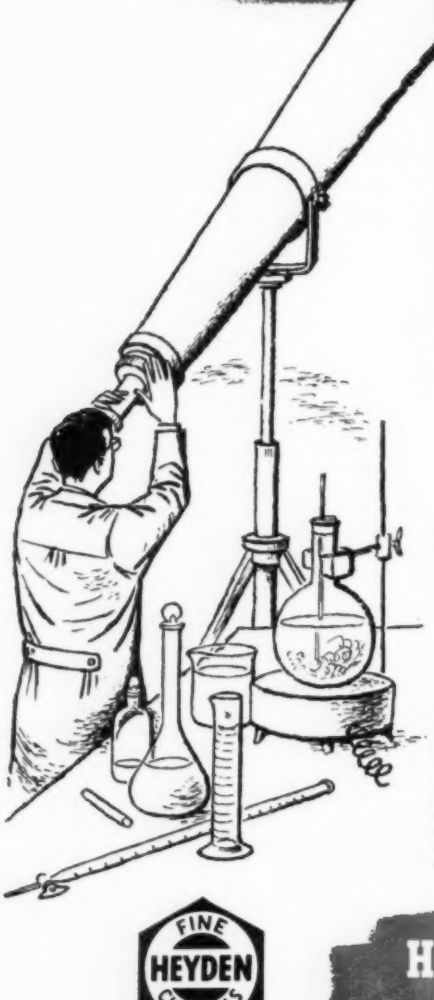
Specialists in Liquid Filling and Container Cleaning Equipment

4013 North Rockwell Street • Chicago 18, Illinois

BOSTON • NEW YORK • PHILADELPHIA • HOUSTON • DALLAS
LOS ANGELES • SAN FRANCISCO • DENVER • SEATTLE • PORTLAND
PHOENIX • NEW ORLEANS • TAMPA • ATLANTA • MONTREAL
TORONTO • VANCOUVER • WINNIPEG • EXPORT OFFICE: TOLEDO

Take a closer look at...

HEYDEN BENZYL CHLORIDES



The high quality and uniformity of Heyden Benzyl Chloride have established it as a dependable raw material in the production of essential oils, pharmaceuticals, dyes, resins, plasticizers and quaternary ammonium compounds. Research chemists find this low cost, reactive intermediate useful in the synthesis of new products for many and varied applications.

Heyden's extensive work in the chlorination of toluene has also produced a number of chlorobenzyl chlorides. These compounds have many interesting applications in organic syntheses, and deserve a close look by your research department.

Benzyl Chloride **Ortho-Chlorobenzyl Chloride**

Para-Chlorobenzyl Chloride

2,4-Dichlorobenzyl Chloride **3,4-Dichlorobenzyl Chloride**

Pentachlorobenzyl Chloride

(Available in research quantities)

OTHER HEYDEN CHLORINATED COMPOUNDS

Chlorotoluenes Chlorobenzaldehydes

Chlorobenzoic acids

Chlorobenzotrichlorides Chlorobenzoyl chlorides

FINE HEYDEN CHEMICALS

HEYDEN CHEMICAL CORPORATION

342 Madison Avenue, New York 17, N.Y.

CHICAGO • CINCINNATI • DETROIT • PHILADELPHIA • PROVIDENCE • SAN FRANCISCO

Compounder's Corner

Shelf Testing

For ordinary consumer goods, it is advisable to anticipate a possible shelf-life of at least 12 months and preferably two years according to J. R. Gwilt (*P. E. O. R.* 1955:60). A new or modified product should really be tested over a similar length of time before production commences. As this of course is rarely possible, some form of accelerated aging test must be devised.

The best single test is to store the sample at elevated temperature. Very broadly speaking, a temperature increase of 10° C. (18° F.) doubles the rates of the usual types of reaction, so that the shelf-life at room temperature (20° C.) is four times that at 40° C. Lack of stability may be shown by chemical assays, or by following variations in such physical characteristics as viscosity or oil globule size. Variations in odor or flavor due to prolonged heating should be interpreted with caution; 100° F. (38° C.) is normally a safe maximum working temperature from this point of view.

Emulsions and suspensions in general should also be subjected to chilling tests; 24 hours at 0° C. (32° F.) is usually effective in simulating adverse conditions.

The foregoing tests, while rigorous, are nevertheless artificial. Some products are more sensitive to repeated variations in temperature or humidity, and suitable cabinets are available.

Storage in the window will show up any deterioration due to light. Such effects, of course, can be greatly accelerated by irradiation with ultra violet light, as in a paint or textile-testing cabinet.

The physical stability of emulsions and, to a less extent, suspensions, may also be tested by carefully designed centrifuge tests. For some products, however, centrifuging can give misleading results which may be due to the relative differential mechanical forces on the particles. In the same way, thixotropic or dilatant effects can arise merely by passage through a filling machine and products sensitive to these effects must be allowed to revert to their normal equilibrium states before their physical properties are assessed.

Variation in the oil globule size distribution with time generally gives a good quantitative measure of the stability of an emulsion. The actual counts are made by means of a microscope and a marked tendency for coalescence is generally indicative of inherent instability. For suspensions, on the other hand, settling during storage is a better and quicker check than is the actual measurement of aggregate size distribution.

It is often necessary to incorporate a preservative and those of widest use are benzoic acid, chlorocresol, chloroxylenol, esters of p-hydroxybenzoic acid and—less usually nowadays—sulfur dioxide.

Chemical assay for the preservative during stability trials is very desirable, but occasionally false conclusions may be drawn. It is therefore desirable to check the efficacy of the preservative by inoculating the preparation with a micro-organism known to cause spoilage. Apart from gross visual evidence, the efficacy of the preservative should be checked by subculturing the product on to a suitable medium.

Flavor and perfume stability trials are no less important than those already outlined above. The fading of essential oils in a product may be due to one or more of the following factors:

(1) Reaction with another ingredient, i.e. incompatibility.

(2) Oxidation of the organoleptic fraction of the oils. It may be possible to overcome this by means of a (synthetic) antioxidant, such as a gallate butylated p-hydroxyanisole or nordihydroguaiaretic acid, or by means of a natural stabilizer such as benzoin or cinnamic aldehyde.

(3) Physical adsorption of the oils at an interface—water/oil, oil/solid, etc. This is of particular importance for products containing large amounts of insoluble powders such as chalks.

(4) Inherent weakness of an oil, due to selection of an unsatisfactory grade. The only safe criterion is to test the particular oil in the actual product.

(5) "Volatility" of the oils. While this may be overcome by using an improved closure, it is often desirable to incorporate a fixative such as a natural or artificial musk.

Before consumer marketing trials are completed, travel tests of complete case lots should be made over a route known to offer stringent conditions. This may show up weaknesses of bottle or tube design, the internal packing or the case itself may prove inadequate, faulty inks may show rubbing and so on.

Carrageenin Emulsions

A study was undertaken by B. W. Fitzgerald and D. M. Skauen (*J. Am. Pharm. Assoc. Sci. Ed.* 44:358, 1955) to evaluate the efficiency of a purified Irish-moss extract (carrageenin) as an emulsifying agent.

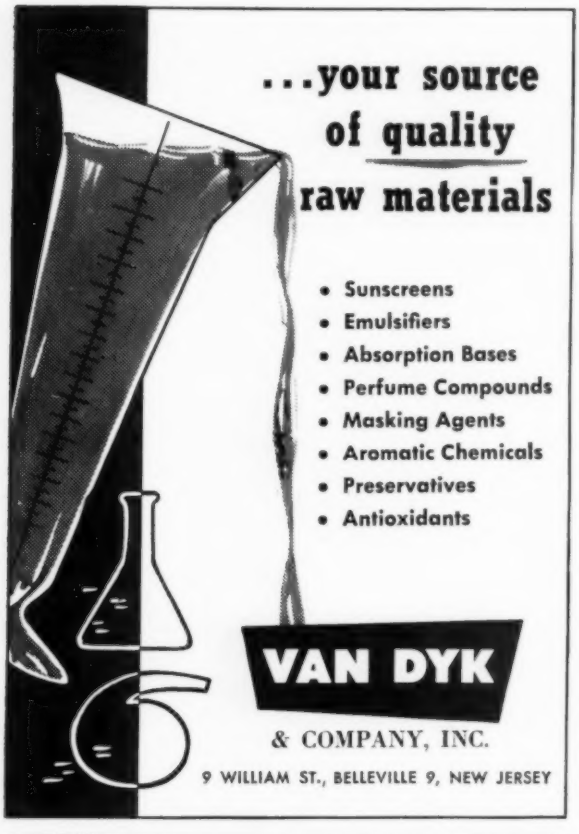
Concentrations of 0.1 to 0.7 per cent of carrageenin were used and it was found that in almost every instance the optimum concentration was between 0.2 and 0.4 per cent. Although a higher percentage increased the viscosity, the efficiency of emulsification was less.

Of all the oils emulsified, both fixed and volatile, carrageenin was most efficient in its emulsification of turpentine oil. In this instance 0.4 per cent was the optimal concentration.

From the results obtained, it appears that carrageenin should be considered a quasi-emulsifier.

In every instance the degree of emulsification obtained when carrageenin was employed as emulsifier was far less than that when acacia or, as in the case of benzyl benzoate lotion, soap was the emulsifying agent. Also, the emulsions containing carrageenin showed a greater tendency to cream and in many instances the oil in these emulsions began to coalesce several weeks after preparation.

The efficiency of carrageenin decreased when the concentration became sufficiently high to produce very viscous emulsions or when the concentration was too low. In almost every instance, the efficiency of carrageenin reached a peak in the concentration range of 0.2 to 0.4 per cent, except in the case of



...your source of quality raw materials

- Sunscreens
- Emulsifiers
- Absorption Bases
- Perfume Compounds
- Masking Agents
- Aromatic Chemicals
- Preservatives
- Antioxidants

VAN DYK

& COMPANY, INC.

9 WILLIAM ST., BELLEVILLE 9, NEW JERSEY

Seacret Number 8

did you know?

. . . that the thermally-reversible gelling characteristic of SeaKem "Colloids Out of the Sea"* can contribute important improvements to such products as calomine lotion? The addition of very low concentrations of the proper SeaKem extractive, then continuing agitation during cooling, results in an interrupted gel structure that stabilizes such suspensions extremely effectively.

* SeaKem is the registered trademark for the standardized hydrocolloids obtained from Irish Moss by the Seaplant Chemical Corporation. Extracted and refined by rigidly controlled processes which insure dependable uniformity and purity, SeaKem Colloids are contributing importantly to a variety of drug, cosmetic and pharmaceutical products. In addition to their unique effectivenss in a wide range of stabilizing functions, SeaKem Irish Moss extractives possess interesting emollient and demulcent properties.

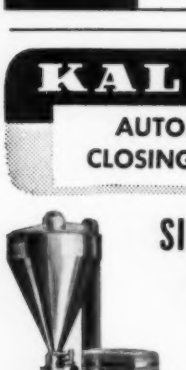
Write today for more information.

Seaplant CHEMICAL CORPORATION

63 David Street, New Bedford, Mass.

KALIX-DUPUY

AUTOMATIC TUBE FILLING, CLOSING & CRIMPING MACHINE



SIMPLICITY • LOWER PRICE
IMMEDIATE DELIVERY

- ★ 120 Gross Daily—One Operator.
- ★ 15 Minutes to Change Size. Very low Change cost.
- ★ Quickly Cleaned — No Hose — Fills Tubes, Jars or Cans.
- ★ Accurate Fill—No drip—No smearing—No air.
- ★ Handles all metal tubes. Model RV-7 from ⅜" to 1½" diam. x 7½" high. RV-10 from 1" to 2½" diam. x 12" high.
- ★ Two-fold—Three-fold or Quadruple fold on RV-7. Two-fold or Three-fold on RV-10.
- ★ No tube—no fill. Coding jaws—Automatic Ejector.
- ★ Cap Tightener.
- ★ Stainless Steel Contact Parts.
- ★ Fully guaranteed — Replacement parts and service readily available.

COMPLETE SERVICE and PARTS FROM NEW YORK STOCK

•

WRITE FOR DESCRIPTIVE FOLDER AND PRICES

HARING EQUIPMENT Corp.

EXCLUSIVE KALIX-DUPUY DISTRIBUTOR

533 WEST BROADWAY, N. Y. 12 • GR 7-2217

PRIVATE FORMULA
Tablets and Capsules

BY THE THOUSANDS—
OR BY THE MILLIONS

Over 40 years' experience enables us to render you prompt, accurate, and dependable service in the manufacture of your tablets and hard shell capsules. Our central location expedites delivery to any point in the country. Furnished bulk or packaged.

Vitamin Tablets and Capsules—Tablets—Ointments—Powders

We Invite Your Inquiries

Standard Pharmacal Co.

OF CHICAGO

PRIVATE FORMULA MANUFACTURERS

M. F. Charley, President

847-853 W. JACKSON BLVD. CHICAGO 7, ILL.

benzyl benzoate, in which instance carrageenin was most efficient at 0.6 per cent concentration.

Epolene Synthetic Waxes

Two new synthetic waxes offered by Eastman Chemical Products seem to present several facets of considerable interest in pharmaceutical and especially in cosmetic formulation. The waxes are designated as "Epolene" polyethylene waxes; they result from the further treatment of polymerized ethylene in the molecular weight range of 2,000 to 6,000. The "E" grade is emulsifiable and suitable for the preparation of emulsions, while the "N" grade is a hard, non-emulsifiable wax. From the composition of these waxes, there is some reasonable presumption of reduced or low toxicity, so that after this has been confirmed, they warrant fairly intensive investigation for use in cosmetics. For example, Epolene "N," the non-emulsifying wax, combines extreme hardness and toughness with low viscosity and melting point of the same order of magnitude as that of carnauba wax. The wax is compatible with a large number of natural and synthetic waxes and resins; it is natural that it be considered in any lipstick formulation with the intent of improving or reducing the cost of the product. Epolene "E" is specifically designed for water emulsion polishes and investigation in terms of liquid and consistent cosmetic creams may prove rewarding. The softening point (ASTM ring and ball method) is approximately 102° C. for the emulsifying grade and 106° for the non-emulsifying wax. The acid number and saponification value for Epolene "E" are 9-10, but are below 0.1 for Epolene "N." Both grades of wax are compatible with carnauba, montan, bayberry, ozokerite, beeswax and Japan wax.

Ointment Bases

The selection of an ointment base in which drugs are to be incorporated for local application should depend on the condition of the patient's skin, the biological effect desired, and the pharmaceutical compatibility of the ingredients with each other and the base.

There are three major types of ointment bases: oleaginous (greasy) bases, which are water repellent; water-absorbing bases, which are greasy but allow absorption of water, and water-miscible bases (vanishing creams or water soluble bases).

The old ideas of epidermatic, endermatic and diadermatic ointments should have been discarded long ago. There is no proof that ointment bases influence the depth of penetration of active ingredients.

The following criteria were finally decided on by R. C. V. Robinson (*A.M.A Arch. Dermatol.* 72:54, 1955) as being conclusive without being too cumbersome:

I. Pharmaceutical Properties

1. Range of Compatibility. The number and variety of substances which may be incorporated in a base limit its usefulness. For instance, one cannot mix aluminum acetate solution (Burow's solution) in petrolatum, or acids and electrolytes with the vanishing-cream type bases.

2. Cosmetic Acceptability. The finished product should be pleasant to use, or at least not objectionable.

3. Chemical Stability. This includes some physical characteristics such as drying tendency. A chemically stable base does not become rancid or "crack."

4. Temperature Stability. The case to be selected should remain of the same consistency within a fairly wide temperature range.

II. Biological Properties

1. Spreadability. This term has been invented to denote the ability of an ointment to cover surface area.

2. Release of Medication. There would be little use in prescribing an antibiotic ointment in which the active ingredient is not released on to the affected area, and therefore this is a very important item to be considered.

3. Primary Irritation. Any substance which causes an inflammatory reaction in a high percentage of individuals should be avoided as a vehicle.

4. Sensitization. This is a true allergic response and is seen usually after prolonged or repeated contact. It is one of the major objections to hydrous wool fat.

5. Range of Therapeutic Application. One of the major deciding factors in the choice of a base, this is also one of the more difficult to evaluate. The acutely inflamed area, the ulcer, and the chronic lichenified lesion each reacts in a peculiar fashion to local medication.

Silicone Anti-Foam

Development of a new silicone antifoam agent that combines the high efficiency of the silicones with greatly improved ease of use in manufacturing operations was announced by General Electric Company's Silicone Products Department.

The new defoamer is said to represent a significant advance over conventional silicone defoamers, due to its ease and versatility of application in a broad cross section of industries plagued with foaming problems. Designated Anti-Foam 60, the low-viscosity silicone emulsion has been designed specifically for use in aqueous foaming systems.

Hitherto, silicone antifoam agents designed for use in aqueous systems have been supplied as high viscosity emulsion concentrates. These had to be dispersed carefully in additional water to obtain emulsions of maximum effectiveness. Because of their consistency, a high-speed stirrer was required to obtain good dispersion. Anti-Foam 60, on the other hand, is supplied as a low viscosity emulsion that pours readily and disperses instantly, even in cold water. It can be added directly to the foaming system or can easily be diluted with water to any desired concentration. Little or no stirring is required.

In soap and detergent manufacturing, the anti-foam agent can suppress foam during bottling of such items as wetting agents and shampoos, and in the refining of oils for soaps. Prevention of foaming during actual use has been made possible by adding Anti-Foam 60 to dairy detergents, dishwashing compounds, dry-cleaning emulsions and other industrial cleaners.

Ninol Extra

By a modification of the basic process for the manufacture of nonionic surface active agents of the alkylolamide type, Ninol Laboratories, Inc., Chicago, Illinois, is now able to increase the amide content of the amine condensates. By elimination of less active components, the amide content has been increased to about 90-95 per cent, so that the new Ninol Extra is said to exhibit even higher foam stabilizing and thickening properties than formerly for use in shampoos.

Stabilized Vitamin A

According to U. S. Patent 2,708,628 issued May 17, 1955 to J. C. Bauernfeind and L. Magid, fatty acid esters of vitamin A such as vitamin A acetate and vitamin A palmitate are stabilized by incorporating a small amount of N,N' - diphenyl - p - phenylene diamine with the vitamin A compound. Compositions of this type are stable and may be exposed to air for long periods of time under conditions of high heat and humidity with relatively little or no loss of activity.

POWERFUL REASONS

why you should use

ASCORBIC ACI

(vitamin C)

SODIUM ASCORBATE

'ROCHE

- When you buy from 'Roche' you deal with a house of over a half century's experience in the fine chemical field,—a house that produces every useful type of ascorbic acid to meet virtually every manufacturing need; the first to achieve commercial production of vitamin C by the famous Reichstein synthesis.

- Large consumers can have the advantage of single lots running as high as 3000 kilos—uniformly mixed, and necessitating only one assay. This is possible because 'Roche' really produces vitamin C "By the Tons."

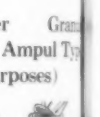
- Small users are just as important to us—they get the same 'Roche' service, the experience of a house that for many decades has been in the forefront of vitamin research and manufacturing. 'Roche' technical personnel is equally ready to assist you with development and production problems.

- All types of 'Roche' ascorbic acid are uniform, readily soluble, and easy to handle. 'Roche' scientific production control is meticulous—it guarantees highest quality; specifications that even exceed U.S.P.'s.

- Quick delivery from strategically located warehouses, w of the following types are stocked to meet your individual specifications, and from which fresh material is insured by volume of sales:

  Fine Powder Ultrafine (Mikro) Powder Gran
  Fine Granular Superfine Granular Ampul Ty
  Sodium Ascorbate (fine powder for all purposes)

- 'Roche' packaging is designed to protect the original quality in sealed tamperpruf containers. Refuse to accept material if this seal has been broken or if original 'Roche' label shows signs of mutilation.



- Ascorbic Acid and Sodium Ascorbate 'Roche' are p sealed polyethylene bags in 1-kilo and 2½ kilo tamperpruf metal containers. Larger quantities are packed in sealed p lene bags in fibre drums. Smaller quantities in amber s bottles. *Ampul type* ascorbic acid is packed under inert g gram bottles and in 1-kilo and 2½ kilo tamperpruf metal c

BUY 'ROCHE'—DEPEND ON 'ROCHE'

"The Vital Story of Vitamin C"—an Inside Science story is available form. It is published in the interests of the pharmaceutical manu and food processors who make their good products better with health-giving Vitamin C.

CALL 'ROCHE' FOR VITAMINS

VITAMIN DIVISION • **HOFFMANN-LA ROCHE INC.** • NUTLEY 10, NEW JERSEY

NUtley 2-5000

Pacific Coast distributor: L. H. BUTCHER COMPANY

San Francisco • Los Angeles • Seattle • Portland • Salt Lake City

In Canada: Hoffmann-La Roche Ltd., 286 St. Paul Street, West; Montreal, Quebec

OTHER 'ROCHE' VITAMINS INCLUDE

VITAMIN A acetate and palmitate • Dry VITAMIN A acetate • Beta CAROTENE, all trans • THIAMINE hydrochloride and mononi RIBOFLAVIN • RIBOFLAVIN-5'-Phosphate Sodium • BIOTIN • PYRIDOXINE hydrochloride • NIACIN • NIACINAMIDE • dl-alpha-TOCOPHEROL acetate &

Advancing Therapy

Antacids

The ideal antacid should take up acid in the stomach, give it up in the intestine, and remain very insoluble during its passage through the alimentary canal. Polyaminostyrene, which is a long-chain aromatic base, is one substance that seems to satisfy these requirements: but its capacity to absorb HCl is greatest below pH 2.5 and is very small at pH 3. For this reason it does not seem to be highly suitable for use as an antacid; but in Norway some clinicians are convinced of its value, and its advantages should certainly be further tested. The more usual antacids may be divided into two main classes. First there are those—for example, sodium bicarbonate or magnesium oxide—which neutralize part of the acid secreted by the stomach by virtue of their content of potential hydroxyl ions and thus deprive the body of acid. If the amount of acid neutralized exceeds the daily production of metabolic acid the urine will become alkaline, or if the kidneys should fail to compensate completely for the intake of hydroxyl ions the alkali reserve may begin to rise. The seriousness of such alkalosis may have been exaggerated, but there seems to be no reason for using drugs which are potentially dangerous if others equally effective are available. Antacids in the second class, such as aluminum hydroxide, do not neutralize the hydrogen ions of the gastric secretion, but merely adsorb or buffer them in the stomach and release them in the intestine, where the pH of the contents rises. Thus with these there is no possibility of disturbing the *milieu interne* by the addition of hydroxyl ions. Aluminum hydroxide has the additional merit that even in large quantities it will not make the gastric contents more alkaline than pH 7. The optimum acidity for the healing of gastric and duodenal ulcers is not known; but it would seem reasonable to aim for acidities between pH 3 and pH 7, corresponding to less than 1 m.eq. of free acid per litre. At such acidities the activity of the pepsin in the gastric contents is considerably reduced or is abolished.

Buffers, such as aluminum hydroxide, probably have advantages over alkalis, such as magnesium oxide; but the most important practical point is the method of administration. Sucking antacid tablets, because it continuously controls acidity, is greatly preferable to intermittent doses of antacid.—*Lancet* 1:1208, 1955.

Increasing Hormone Activity

According to R. Hertz, W. Tullner and E. Raffelt (*Endocrinology* 54:228, 1954) the progestational activity of 17-ethinyltestosterone is increased five-fold by the elimination of the methyl group in the 19 position.

Comment: Some years ago a publication in Helvetica chimica Acta showed that the activity of progesterone could be increased about three times by the introduction of a 11,12 double bond, and other work indicated that the elimination of an angular methyl group either increased activity or left it undiminished. Most recently, the activity of cortisone and hydrocortisone have been increased by the addition of halogen atom in the 9 position or a double bond in the 1,2 position. Another entry in the rheumatoid arthritis-cortisone sweepstakes, if clinical tests confirm early laboratory results, is reported by a Merck group of research chemists (Hirschmann et al., J.A.C.S. 77:3106, 1955). The new compound, 1-dehydro-9α-fluoro-hydrocortisone acetate is reported to possess about 25 times the activity of hydrocortisone acetate and is therefore the most potent glucocorticoid known. The compound has structural similarities to both the most potent corticoid hormones: it has the 9α-fluorine substituent as well as the 1,2 double bond, each of which alone increase the activity of hydrocortisone.

It may well be that antiarthritic activity of glucocorticoids might be still further enhanced by the elimination of one of the angular methyl groups, as was done in the case of ethinyl testosterone, either by itself or in combination with an added double bond or an added halogen atom. Furthermore, I would venture to guess that perhaps the simplest approach to the synthesis of compounds of this type might well arise through the utilization of intermediates in a steroid total synthesis.

Neomycin Stability

Neomycin is a water-soluble polybasic antibiotic relatively stable in solution over a range of pH 2.0 to 9.0. It is most active in alkaline solution and is active against Gram-positive and Gram-negative bacteria, but is inactive against fungi. Its stability in pharmaceutical preparations has been investigated by R. M. Simone and R. P. Popino (*J. Am. Pharm. Assoc. Sci. Ed.* 44:275, 1955). In ointment bases, i. e., white petrolatum, polyethylene glycol, anhydrous lanolin, neomycin was found to be stable for periods approximating two years at room temperature. Neomycin oil suspensions were found to be stable for periods of approximately one year at room temperature. Neomycin tablets and troches containing the usual excipients were stable for periods of two years at room temperature and at 56°. Aqueous nasal preparations, mouth washes, and tinctures were found to be stable for one year at room temperature.

In dilute aqueous solutions, neomycin salts were found to be stable up to two years at room temperature with excellent color stability. At higher temperatures for two years, there are indications that the use of antioxidants and buffers in the pH 6-7 range may aid in retarding the development of color of the solutions.

In concentrated aqueous solutions, neomycin salts were found to be stable for one to two years at normal and elevated temperatures in the presence of various combinations of antioxidant and buffering agents. The inclusion of these additives retards the development of color in the solutions.

Pain Relief

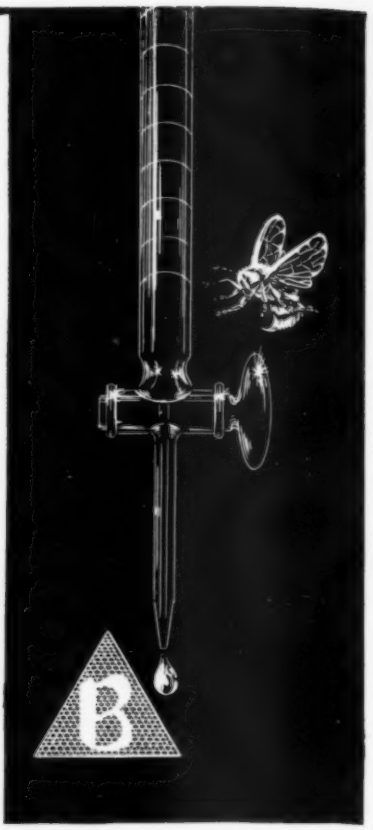
The adequate relief of prolonged and severe pain still remains one of the unsolved problems of medicine. To date, morphine and its analogs have been the drugs used, and these have been only partially effective in producing relief from severe pain. This is due to the fact that it has not been possible to administer sufficiently large doses to produce complete analgesia without

BUSH

scents mean

more dollars

for you



W. J. BUSH & CO., Inc.

Essential Oils

19 West 44th STREET, NEW YORK 36, N. Y. • MUrray Hill 7-5712

Certified

Cosmetic Colors

for

Lipsticks • Face Powders

Rouges • Compacts

Lip Pomades • Nail Polishes

also

Purified Iron Oxides

Purified Titanium Dioxide

for Drugs and Cosmetics

Let our modern scientific laboratories assist in your color problems.

Samples Cheerfully Submitted.

Ansbacher–Siegle

CORPORATION

Manufacturers of Fine Colors

General Offices, Factory and Laboratories

ROSEBANK, STATEN ISLAND, NEW YORK, N. Y.

Boston, Chicago, Cleveland, Louisville, Los Angeles, Philadelphia, San Francisco

for UNIFORM PURITY

UNIFORM TEXTURE

UNIFORM WHITENESS

Experimental data and practical manufacturing experience of over 100 years' specialization in beeswax and beeswax compounds are at your service without cost or obligation. Write about your beeswax problems to WILL & BAUMER CANDLE CO., INC., Syracuse, N. Y. Est. 1855

Spermaceti—Ceresine—Red Oil—Yellow Beeswax—Composition Waxes—Stearic Acid—Hydistear

evoking dangerous and undesirable side-effects such as respiratory depression, tolerance, vomiting, and constipation.

The method described by F. H. Shaw and A. Shulman (*Bril. Med. J.* 1955: 1367), in incorporating the use of 2:4-diamino - 5 - phenylthiazole hydrobromide (D.A.P.T.), permits the use of large doses of morphine, adequate to effect satisfactory analgesia, without the associated production of these dangerous and undesirable side-effects.

Special mention must be made of the apparent ability of D.A.P.T. to prevent or delay the onset of tolerance. This clinical observation, if substantiated, would make the action of D.A.P.T. unique in this regard.

In addition to the extensive series of cases, D.A.P.T. has been used in a few cases of neonatal asphyxia, in methadone hydrochloride poisoning, and for the relief of post-operative pain. It should now be possible to use larger doses of morphine pre-operatively in conjunction with D.A.P.T., perhaps by intravenous administration. Finally, the removal of the risk of respiratory depression due to morphine should lead to an extension of this drug's use in the fields where it is already of value—namely, "shock," coronary occlusion, obstetrics, etc.—and may open up new fields in anesthesia.

Pancreatic Ferment for Burns

The use of pancreatic ferments in the local treatment of severe burns was suggested by Greuer in 1942, and Stucke reported his first experiences with this treatment in 1949, but at that time the technique of this treatment still had certain defects. In the meantime the pancreatic ferments (trypsin, amylase, and lipase) have been incorporated into bandages. Tests revealed that the ferments and antibiotics in these bandages remain effective after storage up to six months. To activate the pancreatic enzymes, the bandages are only dipped into distilled water and are then applied to the burned surface. Stucke (*Chirurg.* 25:289, 1954) emphasizes the purely local character of this treatment, which has no decisive influence on the shock condition existing during the first 48 hours after the burn. Experiments designed to ascertain the best concentration of the enzymes in the bandages revealed that 2.5 gm. of enzyme per 100 gm. of bandage was the optimal concentration. In patients with severe burns or scalds, the enzyme-impregnated bandages were applied after blisters and destroyed tissues had been removed by aseptic technique. The application of the moist bandages had a soothing and cooling effect. The bandages were renewed after 24 or 36 hours. The wounds were free of necrotic tissue at the end of six to nine days; bleeding points were visible about one day later, and after two more days fresh granulations and marginal epithelization could be seen, and the wounds were suitable for grafting. The fact that grafts healed well after local treatment with pancreatic enzymes is ascribed to the fact that the cutaneous tissues which were not destroyed by burning, are preserved during treatment with the pancreatic enzymes, and these islands are presumed to exert a strong stimulus for epithelization. The duration of treatment was usually reduced with this form of treatment. Experiments on animals corroborated the favorable clinical experiences with the pancreatic ferments in the treatment of burns.

Systemic Bacitracin

Bacitracin is now safe for systemic use according to F. L. Meleney and B. A. Johnson (*U. S. Armed Forces Med. J.* 6:834, 1955). It is a potent agent against all of the severe coccal and clostridial infections, many of which have become resistant to penicillin and the tetracyclines. Primary hypersensitivity reactions to bacitracin are rare and allergic manifestations are practically nil. Bacitracin is bactericidal and not simply bacteriostatic, and therefore is of particular value in infections connected with surgical procedures. If bacitracin is used as a prophylactic agent or is used in the first four days in the course of an infection due to an organism which is susceptible to it the response will be prompt and favorable in a very high percentage of cases.

Thiamethaphan Camphorsulfonate in Surgery

Thimethaphan camphorsulfonate (Arfonad), a thiophanium derivative, was used in more than 200 patients by Sadove, Wyant and Gleave (*A.M.A. Arch. Surg.* 68:779, 1954) for the induction of hypotension during surgical anesthesia. Thimethaphan camphorsulfonate is an ultra-short-acting agent; its effect is so evanescent that the agent must be administered in a continuous intravenous infusion if vasodepression is to be maintained. The action of thimethaphan camphorsulfonate is markedly facilitated by general anesthesia and by drugs with a vasodepressor action, such as morphine and meperidine hydrochloride. Like the methonium compounds, thimethaphan camphorsulfonate is potentiated by the administration of procaine hydrochloride. Emphasis is placed on the relatively few indications of controlled hypotension in general surgery. When thimethaphan camphorsulfonate is indicated, it represents a valuable aid to surgery.

Motion Sickness Drugs

The effects of certain anti-motion-sickness drugs on the normal labyrinth of man were determined in 25 normal soldiers and parachutists by E. G. V. Garrido and A. O. Garcia (*Rev. espan. olo-neuro-oftal.* 13:324, 1954). The drugs used were Vasano (hyoscyamine and scopolamine), Mareosan (atropine, belladonna, and caffeine), Pyridoxine (Vitamin B_6), and the antihistamine drugs Dramamine, Benadryl, and Phenergan. The authors conclude that the greatest activity of these drugs during the tests is that of the atropine preparations, mainly Vasano. Dramamine is the most active among antihistamine drugs. Vitamin B_6 is entirely inefficient.

Vitamin B_{12} and Penicillin

A product in tablet form, each tablet containing 200 gammas of vitamin B_{12} and 200,000 units of penicillin, was studied by J. Gouyen and R. Bouvier (*Semaine hop. Paris* 31:975, 1955) to determine its clinical effect on infants and children suffering from weakness, hypotrophy, and anorexia, or convalescing from various illnesses. No other therapy was given during the trial period, and no changes were made in the subjects' usual diet. All but one of the children tolerated the product perfectly, and two-thirds of them were unquestionably improved in weight, appetite, and general condition. The rapidity with which these gains were made in the convalescent group further indicated the value of this combination of vitamin B_{12} and penicillin.

Californin-Antibiotic

Further studies of a new, highly fungicidal antibiotic, coliformin, were reported by S. K. L. Freyschuss, S. O. Pehrson, and B. Steenberg (*Antibiotics and Chemotherapy* 5:218, 1955). A liquid medium containing glucose, ammonium tartrate, phosphate, magnesium, and trace elements gives rapid growth and high yields of coliformin. The active principle, a polypeptide containing eight amino acids, has been isolated and characterized. Coliformin is active against a wide variety of fungi including plant and human pathogens.

COMMITTEE REPORTS ON FDA

(Continued from page 175)

Instruction of the New Drug Branch personnel in the necessity for avoiding misunderstanding in processing applications and handling related correspondence.

Simplification of the requirements, including permission to refer to applications on file as unchanged or amending them only to the extent of change.

Increased use of standardized methods and forms.

Scheduling manpower to compensate for the uneven flow of applications.

Immediate prescreening by professional personnel to detect obvious technical deficiencies which might render the application "incomplete." This should follow the screening for clerical accuracy and general compliance.

The applicant should be notified within ten days if additional data are required, except for such deficiencies as may be apparent only after extensive investigation.

Development of better methods for the evaluation and analysis of new drugs.

6. The stature, prestige, and salaries of the professional personnel who must bear the burden of passing on new drugs should be increased.

7. Consideration should be given to the creation of a committee (possibly similar to National Research Council committees or the Advisory Councils of the Public Health Service) to advise the FDA on complex problems in the field of new drugs.

With regard to the Division of Cosmetics, the Committee points out that, while this division coordinates and directs the technical work involved in the examination of cosmetics, only two employees are assigned exclusively to this work, with annual salaries totaling $12,500. Twenty-three other employees of this division, with salaries totaling $120,605, are employed wholly or mostly on coal-tar color work, which is distinct from the cosmetic program although organizationally entrusted to the Division of Cosmetics. The 1956 budget calls for an additional chemist for cosmetic work at an annual salary of $4,205.

In the Division of Pharmacology a skin pharmacologist works primarily on the problem of skin toxicity related to the use of cosmetics. The 1956 budget calls for one additional pharmacologist at $5,060 to assist in work stemming from the many new and unstudied ingredients used in cosmetics. Determination of policy with respect to the safety of cosmetics is a function of the Division of Medicine. The field organization has the functions of inspection, sample gathering, investigations, etc., with respect to cosmetics, just as with foods and drugs. Inspectors are used interchangeably on foods, drugs, and cosmetics and only a very small amount of their time is devoted to cosmetics.

As in all other FDA work, the Committee points out that priorities in the cosmetic program are: hazards to health, filth, decomposition and insanitation, and economic cheats. At present almost all resources available are directed toward the detection and removal from the market of adulterated cosmetics which are or may be injurious to users. Misbranding is given little attention except as it may be found that a false or misleading label is endangering the health of users of the product.

Investigational activities with respect to harmful and deleterious cosmetics include:

Inspection of factories to determine current manufacturing practices.

Development of methods of analysis for cosmetics. (FDA considers this especially necessary because of the secrecy which shrouds the formulae of cosmetics.)

Investigation of the effects of cosmetics upon users, ordinarily done by analysis of injury reports, also by testing upon animals.

Regulatory activities include the recommendation to the Department of Justice of appropriate seizure and prosecution actions, which must be supported by development of information to justify starting action and factual and expert testimony in court cases.

The Committee says that approximately 1,900 establishments manufacture, ship or store cosmetics in interstate commerce, or about two per cent of the estimated number of food, drug, and cosmetic establishments (96,000) significant in interstate commerce.

The Committee recommends that:

1. There should be more adequate enforcement of the existing law with respect to cosmetics, made possible through provision of more funds for inspectional activities. It is suggested that a full two per cent of the FDA budget be utilized in support of the cosmetic program, exclusive of funds allotted to the certified color program.

2. There should be greater enforcement activity directed toward economic cheats.

Certification of antibiotics has long been a bone of contention between the FDA and the pharmaceutical manufacturers. This is for the reason that the industry believes that certification is unnecessary in most instances because of the extremely small number of rejections. The payments to the FDA for certification of antibiotics runs into a considerable amount of money. Furthermore, while most important antibiotics are subject to certification, Terramycin is not subject to certification. Others not subject to certification are Tyrothricin, Neomycin, Polymixin, Erythromycin, Fumagillin, Viomycin, and Carbomycin. Streptomycin, Dihydrostreptomycin, Aureomycin, Chloromycetin, Bacitracin, Tetracycline, and Penicillin are subject to certification. Certain exemptions have been granted by the FDA on certain forms of the products subject to certification.

The Certification and Inspection Services of the FDA have control over the certification of antibiotics, the certification of insulin and its derivatives, the certification of coal-tar colors as well as the listing of such of these products which are harmless for use in foods, drugs, and cosmetics. In addition this division of the

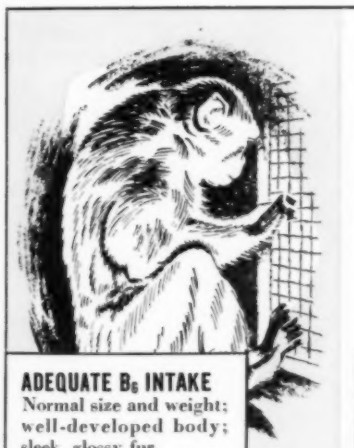
(Continued on page 266)

The rediscovery of VITAMIN B_6

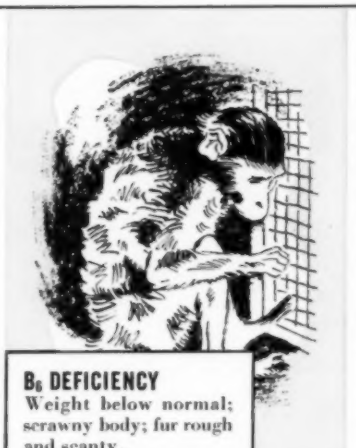
Recent studies demonstrate the essential need for **PYRIDOXINE**

RECENT CLINICAL INVESTIGATIONS have confirmed the essential role of vitamin B_6 in infant nutrition. Convulsions were observed in young infants whose formulas lacked adequate amounts of vitamin B_6. Other data suggest that supplemental vitamin B_6 intake is desirable to guard against a deficiency that may accompany pregnancy.

A SPECIFIC SEBORRHEIC DERMATITIS is typical of B_6 deficiency and has responded readily to the vitamin. Vitamin B_6 has proved to be highly beneficial also in the treatment and prophylaxis of radiation sickness, with prompt control of nausea and vomiting. Experimental work indicates a distinct relationship between B_6 and arteriosclerosis in the monkey.



ADEQUATE B_6 INTAKE
Normal size and weight; well-developed body; sleek, glossy fur.



B_6 DEFICIENCY
Weight below normal; scrawny body; fur rough and scanty.

STUDIES at the Merck Institute for Therapeutic Research have disclosed striking differences between monkeys fed on a purified diet lacking in vitamin B_6 and those receiving the same diet plus vitamin B_6. While these studies do not necessarily apply to human beings, they nevertheless convey interesting implications about inadequate amounts of vitamin B_6 in the diet. Tremendous professional interest was aroused at leading medical conventions by an exhibit based upon this "living-proof" material. Merck conducts such scientific convention promotion to stimulate professional appreciation of vitamin products.

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

MERCK

FIRST IN VITAMINS

© Merck & Co., Inc.

Perfumer's Shelf

Perfuming Soaps

The perfume should be diffusive and yet so agreeable that the consumer will not tire of the fragrance which is being continually emitted from an exposed bar of soap.

The composition should be such that a renewal of surface during use will not bring about an abrupt change in perfume character. This can be achieved through use of a properly fixed perfume blend with attention to the relatively volatility of the components. Only by proper selection of the odorants can the manufacturer expect the fragrance to be well retained in his products.

A soap perfume should leave a mildly distinctive sweetness on the skin in addition to providing a pleasant scent during bathing. In seeking to achieve this objective the perfumer knows that marked differences exist among aromatics in their ease of and permanence of absorption.

A second important factor in the adaptation of a perfume is the variability in the reproduction of fragrance in soap. It can be generally stated that nearly all fragrance types can be developed for soap especially if limits of cost and color are not restrictive. On the other hand, all are modified in some degree; important features may be enhanced, depressed or even lost. It should also be accepted that perfumes in soap do not display the headiness and lift shown from an alcoholic medium. The absence of the carrier action of alcohol and the mellowing influence of soap itself are responsible.

A third point is that of soap stability. While soap influences fragrance, it is in turn affected by some aromatics. A few are known to cause rapid development of rancidity; others produce significant discoloration and may be employed only when the soap itself is to be deeply shaded. Thus, it is important to understand the limitations on the perfumer's range of useful aromatic materials.

Again attention should be directed toward control of the quality of the soap which is to carry the fragrance. Only in a mild and well preserved medium can one expect even the most perfectly formulated perfume to exhibit all the facets of its personality. Soap manufacture is an art in which there is no substitute for exact control, experience and technical skill.—*E. D. Kilmer.*

Vaporized Sachets

Why doesn't some manufacturer formulate and promote a quality perfume for use in women's clothes closets? I have in mind a bottle provided with a wick or some other evaporating arrangement that would disseminate fragrance in the closet to perfume outer clothing. Some women accomplish this purpose by occasionally spraying clothing with an atomizer, but garments sent out to the cleaner are often returned to the closet without this treatment. The powder sachet bags (or strongly perfumed toilet soaps) used in lingerie drawers only partially fulfill the purpose of providing a distinctive perfume aura.

The "vapor sachet" would have to be somewhat different in formulation from a perfume directly applied to the clothing; fixatives and other very slowly evaporating ingredients would not reach the garments and the desired effect must be attained by combinations of volatile ingredients. Since the clothing would get relatively long exposure to perfume vapors in the closet, sufficient saturation should be obtained to give reasonably lasting effects on wearing.

Saccharin Taste

Standard taste panel techniques were used by F. J. Helgren, M. J. Lynch and F. J. Kirtchmeyer (*J. Am. Pharm. Assoc. Sci. Ed.* 44:353, 1955) to study the incidence of the off-taste of saccharin salt solutions, freshly prepared without heating. The off-taste of saccharin is intrinsic in the saccharin molecule as tasted by individuals who are sensitive to it. Decomposition products or trace impurities are not essential to the off-taste response. Approximately 25 per cent of the population can be expected to detect the off-taste in saccharin concentrations up to 0.026 per cent, equivalent to about 10 per cent sucrose. The off-taste response was substantially the same for saccharin sodium, saccharin calcium, and for saccharin sodium prepared by new synthetic methods intended to eliminate trace impurities.

Comment: A similar study might well be made with sodium or calcium cyclamate and other synthetic sweeteners since, in my own experience, cyclamate gives a bitter off-taste in pharmaceuticals if used in excessive amounts.

Smelling by Sniffing

Nothing beats a sniff for carrying air to the smelling nerves, Dr. Bernice M. Wenzel of Barnard College, Columbia University, New York, has reported.

The sniff can be any size, too, Dr. Wenzel said, if the concentration of gaseous mixture being sniffed is controlled so that the number of odorous molecules available as well as the volume of non-odorous air can be specified.

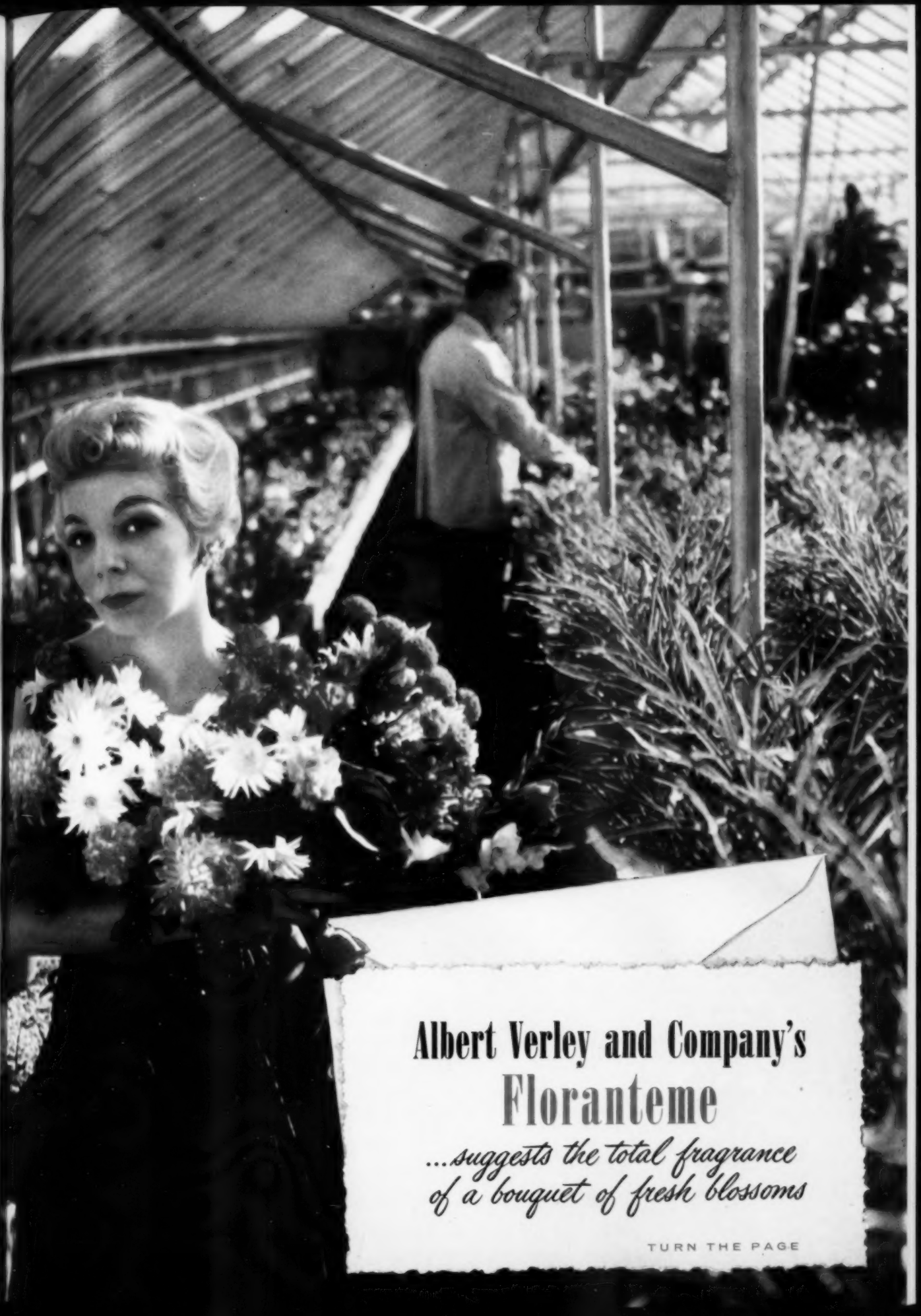
Blast and stream injection techniques have been used by scientists, including Dr. Wenzel, for measuring smell sensitivity in human beings. But Dr. Wenzel reported these are not as good as a sniff after all and she has abandoned the blast and stream techniques.—*Science News Letter*, June 18, 1955.

Sweetening Compound

A natural sweetener that missed saccharin's role as a non-nutritional flavoring substance may prove to be a source of steroids.

Known as stevioside, its complex chemical formula containing three units of ordinary sugar plus other structures was described by Dr. Hewitt G. Fletcher of the National Institutes of Health.

The non-sugar component of stevioside is partly responsible for the extreme sweetness, as great as saccharin, or 300 times as great as sugar. Found in leaves and twigs of the "sweet herb of Paraguay," the sweetening agent amounts to seven per cent of the wild plant. It was


Albert Verley and Company's
Floranteme
...suggests the total fragrance
of a bouquet of fresh blossoms
TURN THE PAGE

Albert Verley and Company's

Floranteme

. . . offers you unlimited possibilities for enhancing the universally popular floral note

$18 a pound

IT is impossible to single out the fragrance of any one flower in this intriguing combination. The effect is that of a fresh bouquet — keen, but elusive.

Floranteme enhances any floral composition, yet is of even greater value in its usefulness as a base on which to fashion a host of modern perfume creations. It improves Lilac, Rose, Jasmin, and Lily — and blends well with any type of floral odor. It is excellent as a cream odor, perfume, or toilet water.

Experiment with Floranteme for effects that are a credit to your house and certain of acceptance among your most discriminating clientele. Write for working sample.

ALBERT VERLEY and COMPANY
1375 EAST LINDEN AVENUE, LINDEN, N. J.

21 East 40th Street, New York 10, N. Y. — **1018 So. Wabash Avenue, Chicago 5, Illinois** — **222 Front St., East, Toronto, Ontario**

MEFFORD CHEMICAL CO., 1026 Santa Fe Avenue, Los Angeles 21, California

Representatives in all principal cities throughout the world

Where Your Dollars Have More Scents

Albert Verley

AND COMPANY

Headquarters for Fragrance Appeal

Synthetic Aromatic Products and Organic Isolates • Synthetic Flower Oils and Aromatic Bases • Bouquets and Finished Compositions

once cultivated in South America in the hope of finding a market, but although it is plentiful, the cost of harvesting keeps it from competing with saccharin and other synthetic sweeteners.

Now the cyclic component attached to the sugar-like stevioside offers hope that the plant may become a raw material for cortisone-like compounds. Chemically, stevioside is interesting as the only sweetening substance of any power that contains no nitrogen. No chemical structure common to sweetening materials has been discovered.—*Science News Letter, Apr. 16, 1955.*

Spices as Preservatives

The use of spices and essential oils as preservatives arises chiefly from their antibacterial action and perhaps to some extent from their antioxidant power. Martindale (1910) measured the phenolic coefficient of a number of essential oils and spices. He found origanum oil to be the most germicidal of the oils tested, having a phenolic coefficient of 26. Cinnamon leaf oil had a phenolic coefficient of 9, and a value of 8 was found for both clove oil and cinnamon bark oil. Surprisingly, garlic oil was found to have a phenolic coefficient as low as 2. Morel and Rochaix showed the antibacterial action of essential oils to be relatively equivalent in the liquid and vapor states.

Myers in 1925 was the first to test the fungicidal activity of essential oils. He found that a pathogenic yeast was killed by thymol in less than one minute, by carvacol in less than one minute, by mustard oil in 10 minutes, by clove oil (equivalent to one per cent phenol) in 60 minutes and by eugenol in 120 minutes.

Dold and Knapp (1949), after testing 21 spices against eight organisms, considered that members of the plant families, *Liliaceae, Cruciferae, Myrtaceae* and *Labiatae*, were germicidally active, while the plant families, *Umbelliferae, Compositae, Boraginaceae* and *Piperaceae* were inactive. They confirmed that the sulfur-containing spices were the most active and also found that in the case of garlic and onion the germicidal action was unaffected by freezing, or by heating at 100° C. for ten minutes; and that spices which contained tannins of alkaloids were, in general, among the most germicidal.

Oshima and Okazaki (1952), in an extensive series of tests, found that although many essential oil constituents were fungistatic, most of the samples were ineffective against *Bact. coli*. They found that clove oil (79 per cent w/v eugenol) tested against 15 micro-organisms, was effective at dilutions of 1 in 16,000 to 1 in 64,000, whereas eugenol, tested similarly, was effctive only in concentrations greater than 1 in 8000. From this they deduced that the action of clove oil was not due to the eugenol content alone.

In 1954, Lord and Husa published information on the ability of essential oils and their constituents to act as preservatives against micro-organisms collected from deteriorated syrup. Of the 200 substances tested, oxyquinoline sulfate was the most effective (1 in 20,000 but not 1 in 50,000) and cinnamic aldehyde next.

Although there is considerable variation in the reported results, there is no doubt that spices and essential oils do possess antibacterial properties. Their value as antioxidants is, however, doubtful, and a true assessment is difficult to make.—W. Boyle, *Pharm. J.* 1955, 411.

Palatone

Palatone is a Dow Chemical Company specialty used in compounding perfumes, flavors for beverages, and in the preparation of pine needle and balsam needle oil.

The solid has a caramel, butterscotch odor, whereas the alcohol solution has a definite pineapple character with a slight indication of strawberry.

Palatone has been found to have good stability and is being used successfully under most conditions encountered with standard types of confectionery, beverages, and bakery products. However, iron has been known to cause discoloration. Also, in solution, alkali tends to catalyze decomposition, therefore, where practical, it might be advisable to keep the pH of the solution slightly on the acid side—for instance by the addition of a very small amount of tartaric or citric acid.

Recent tests have shown that Palatone may be used very successfully in replacing Coumarin in certain flavor applications. In this manner, Coumarin can generally be replaced by one quarter as much Palatone.

Palatone is useful in compounding artificial *pine needle* oils and particularly *balsam needle oils*. Such natural oils contain this substance. A small amount of Palatone (0.1 per cent to 1.0 per cent) will decidedly emphasize the sweetness of most blends. It will be found that the amount of vanillin, heliotropine and similar sweeteners can be substantially decreased, and thus a more elegant and cleaner smelling blend can be obtained without loss in "body." Remarkable effects may be obtained in using small amounts of Palatone with *ionones*. In building up a synthetic *tuberose*, Palatone is almost indispensable.

Oil Antioxidants

Butylated hydroxyanisole, butylated hydroxytoluene, and propyl gallate were compared for antioxidant efficiency alone and in combination with each other in lard by W. M. Gearhart and B. N. Stuckey (*J. Am. Oil Chem. Soc.* 32:386, 1955). A comparison of the physical properties of these three antioxidants was also made.

BHA was found to synergize with propyl gallate to produce the best all-around antioxidant. The mixture of BHA and BHT produced the best carry-through stability in lard, particularly when higher temperatures were used. Propyl gallate alone produces the best stability in lard.

Antibacterial Emulsions

Simple basic emulsions were prepared by K. C. Varma, N. A. Hall and L. W. Rising (*J. Am. Pharm. Assoc. Sci. Ed.* 44:336, 1955) containing potassium penicillin G, chlortetracycline hydrochloride, chlorambhenicol, bacitracin, streptomycin sulfate, Actamer® (2,2'-dithio-bis-4,6-dichlorophenol) and hexachlorophene. The influence of variation on the antibacterial activity of each preparation was measured by the agar-cup-plate method. Factors which were studied were: the nature of the emulsifying agent, the concentration of the emulsifying agent, the nature of the oil phase, and the oil-water ratio. The choice of an emulsifying agent is important in the formulation of dermatologic emulsions but the concentration of the nonionic emulsifier over a limited range seems to have little effect upon the release of anti-infective agents. The selection of an oil only slightly affects the activity of emulsions prepared with it. Increasing concentrations of the peanut oil slightly decrease the activity of anti-infective emulsions under the experimental conditions.

Comment: No observations were made as to which emulsions were oil-in-water and which water-in-oil, although this information is certainly pertinent, especially when specific water-in-oil emulsifying agents are used. In one instance triethanolamine alone was used as the emulsifier, certainly not the best way to use this valuable organic base.

Prefer MAGNESIUM STEARATE U.S.P. TO ZINC—
for baby powders, body powders, face powders?

Call on Whittaker "The Talc House"

Whittaker #905 Magnesium Stearate U.S.P., an outstanding product, exacting uniformity for cosmetics, tablet binding, chemical and pharmaceutical manufacturing

ZINC STEARATE
Whittaker has a grade for every cosmetic and drug manufacturing formulation

TALCS

•

THOMASSET CERTIFIED COSMETIC COLORS

•

SPECIAL #900 POWDER BASE

1229

WHITTAKER CLARK & DANIELS, INC.
260 West Broadway
New York 13, N. Y.

New Line of
STAINLESS STEEL
PAILS
at Big Savings!

New Welded Construction Equals Seamless or Spun

Entirely stainless (no solder) — smooth surfaces — sturdy 24 gauge type 304 analysis stainless — improved shape for easier carrying, better balance — handles, ears, chimes of heavy-duty stainless. Outstanding quality at lowest cost. Backed by Metalsmiths' 30 years' serving process industries.

SEND YOUR ORDER TODAY
PROMPT SHIPMENT

LOWEST PRICES — BIGGEST SELECTION ON THE MARKET

10 qt. -	$ 9.25 ea.
12 qt. -	10.25 ea.
14 qt. -	11.25 ea.
16 qt. -	12.25 ea.
20 qt. -	13.50 ea.
24 qt. -	17.50 ea.

Discounts in quantity

METALSMITHS
Division of Orange Roller Bearing Co., Inc.
568 White Street Orange, N. J.

Chemical Specialties

GELLOID
(Pure calcium Carragheen sulfate)

GUMS
ARABIC—TRAGACANTH—KARAYA
(Whole, granular or powdered)

HYDROSULFITE of SODA
(Pharmaceutical grade)

SULPHONATED OILS
(Vegetable and mineral bases)

VISCO GUM E
(Specially prepared for wave-set solutions)

Ask for "The Story of Water Soluble Gums"

JACQUES WOLF & CO. Chemicals PASSAIC, N. J.

Plants in: Clifton, N.J., Carlstadt, N.J., Los Angeles, Calif.

Rely on the VIALFIL
FULL RANGE PRECISION FILLER
1cc — 4 oz.

VIALFIL
Model F-320

Easy to operate, high speed stainless steel filler dispenses with greater accuracy all types of liquids, oils, suspensions, aqueous preparations. The Model F-320 is built for dependable service in filling bottles, vials, tubes, up to 120cc. at production rates of 1800-3600 containers per hour. Still higher speeds for use with conveyors, the F-320 can be equipped with multi-nozzle manifold for filling 4 containers at a time.

PerfeKtum TRADE MARK REG.

Write for catalog #454 describing entire line of PerfeKtum equipment, including new rubber stoppering and aluminum crimping machines.

EST. 1922 POPPER & SONS, INC.
300 FOURTH AVENUE
NEW YORK 10, N. Y.

Skin Research

Shaving

A paper by G. E. Craig (*A.M.A. Arch. Dermatol.* 71:11, 1955) attempts to explain the mechanism by which shaving can cause skin disease.

The hair projects from the skin surface at an angle, and the direction in which the skin points is commonly known as the "grain." The grain direction varies among individuals but generally it runs from above downward parallel to a line joining the tip of the nose and the midpoint of the chin.

In the process of shaving it is common practice to stretch the skin so that the follicle mound is flattened and the hair is brought to a more elevated position in relation to the skin surface, thus allowing for a closer shave. This flattening can be accentuated in places, such as the sides of the chin, if the tongue is pressed against the inside of the mouth.

The closeness of the shave can also be influenced by the direction in which the hair is shaved. If the hair is shaved in the direction of the grain the hair tends to be flattened just prior to shaving, but if the hair is shaved against the grain the hair is elevated just prior to cutting and hence will be cut closer.

Shaving with a stretched skin against the grain can cut the hair so close that, in some persons, when the tension is released, the cut end is actually below the normal surface of the skin.

Most persons can apparently shave in this manner and not produce any damage. However, in some persons, and frequently only in limited areas of the face, the hair on growing back penetrates the side of the follicular mound and produces one or all of four types of lesions which are regularly seen by the dermatologist.

1. A foreign body reaction where the hair tip penetrating the follicular epidermis forms a chronic inflammatory papule.

This type of reaction occurs commonly in Negroes and may be due in part to the natural kinkiness of the hair which causes it to curl up once the tip is stopped by penetrating the side of the follicle.

2. A small pustule which results from bacterial invasion of the irritated follicular opening.

3. An ingrown hair where the tip is caught in the follicular epidermis and continued growth causes the shaft to double up on itself like a loop.

4. A hair which penetrates the very outer layers of the epidermis and may be pushed under it for ¼ in. or so. Eventually it may break out spontaneously or be released by shaving or plucking.

Testing Skin Penetration

A new objective *in vitro* method was described by P. Flesch (*Proc. Sci. Sect. T.G.A.* 23:25, 1955) for studying the penetration of topical agents through human skin. Skin from surgical or autopsy specimens was incubated with the ointments or lotions to be tested and the epidermis and corium were separated. Chemical analyses in the isolated epidermis and spot tests in the denuded corium were used for measuring the rate of percutaneous penetration.

If a substance is expected to exert any chemical effect upon the skin, it is essential that it should penetrate through the epidermal barrier.

From the standpoint of the cosmetic chemist, absorption of common cosmetic preparations does not play a major role in their action. In spite of some claims to the contrary, cosmetic preparations act almost exclusively by physical means. None of the ointment bases or lotions used in the manufacture of cosmetics have ever been proved to penetrate the intact skin.

Nevertheless, studies of absorption have some bearing on the problems of the cosmetic industry. An analogy is provided by the fungicidal agents. A fungicidal compound need not penetrate through the epidermal barrier, because the fungi live in the horny layer and cannot thrive in the cells. Still, it is not unreasonable to assume that if a compound can pass easily through the epidermal barrier, it also has a fair chance of reaching at least some of the fungi located among the keratinous fibers. Similarly, it is conceivable that a cosmetic agent will have greater affinity for the horny layer, if it can penetrate across the epidermal barrier. In other words, a test for penetrating ability may serve as an index of the capacity of a compound to remain attached to the skin surface. The "staying power" of cosmetic preparations is of importance in the case of all cosmetic agents which contain a dye.

These possible relationships are admittedly speculative. There is, however, another sphere in which absorption tests may serve a useful purpose in the evaluation of cosmetic agents. This field is in the area of transition between cosmetic and dermatologic preparations. Recent trends tend to blur the clear distinction between dermatologic and cosmetic agents. A flesh-colored foundation lotion containing sulfur and resorcinol for the treatment of acne is an example of such a borderline preparation. *In vitro* absorption tests may assist in the evaluation of such preparations.

The main advantage of *in vitro* tests is their objective nature. The effects of topical agents can be expressed in accurate chemical terms and their assessment does not rely on subjective clinical criteria. There is a great need for objective tests to estimate the effects of dermatological and cosmetic preparations.

Human Skin

A piece of human skin as large as a postage stamp contains 3,000,000 cells, one yard of blood vessels, four yards of nerves, 100 sweat glands, 15 oil glands and 25 nerve ends—*Tonics and Sedatives, J.A.M.A.*

MAY WE SUGGEST

NARCEOL

Excellent base for all Floral bouquets and especially Narcissus type perfumes. May be used in creams as it does not color.

AMBRENIA

May be used as a substitute for Ambergris tincture; the perfumer will find it a valuable fixative in many types of products.

ASK FOR SAMPLES AND QUOTATIONS

Ph. Chaleyer, Inc.

160 East 56th Street New York 22, N. Y.

PLaza 3-8618

Old Empire

PLASTIC TUBES

We are filling on fully automatic equipment the new, revolutionary polyethylene (Bradley) or vinyl (Wallace) collapsible tubes.

Manufacturing and control laboratories under strict technical supervision.

Inquiries solicited • *Samples on request*

NATIONAL ASSOCIATION OF PRIVATE BRAND MANUFACTURERS NAPBM QUALITY DEPENDABILITY INTEGRITY

OLD EMPIRE, INC.

Mt. Prospect & Verona Aves.

Newark 4, New Jersey

HUmboldt 4-2121

SANITYPE

The Only Filter

Fabricated of Plate and Bar Stock

Developed Specifically for The Pharmaceutical Industry

Used in the Processing of

ANTITOXINS · VACCINES

BLOOD SUBSTITUTES · ANTIBIOTICS

ALL parts which contact liquid are *polished* . . . making cleaning easy. Quickly opens and closes. Can be used for *double or triple filtration*. Uses all types of filter pads, paper or cloth. The *original* SANITYPE has a proven record of performance. Specify SANITYPE as most leading pharmaceutical manufacturers have done.

Write for Catalog

F. R. HORMANN & CO., INC.

17 STONE ST. NEWARK 4, N.J.

Huisking

CHEMICALS

PHARMACEUTICAL INDUSTRIAL

OILS · VITAMINS · DRUGS · RAW MATERIALS

Importers Exporters Manufacturers

CAMPHOR USP POWDER *DuPont*
CAMPHOR USP TABLETS 1/2 & 1 OZ. *Tower Brand*
QUININE & SALTS *Braunschweig*
QUINIDINE & SALTS *Braunschweig*
HYOSCINE HYDROBROMIDE
HYOSCYAMINE *Hydrobr. & Sulfate*
SUGAR OF MILK USP & Commercial
CHLOROPHYLL *Allen's*
MENTHOL USP
ATROPINE SULFATE & ALKALOID
THYMOL NF *Crystals*
EPHEDRINE HYDROCHLORIDE USP
BRUCINE SALTS
ICHTHAMMOL
SULFUR USP PRECIP. *English*
MAGNESIUM CARBONATE USP *Blocks*
NAPHTHALENE
HAARLEM OIL

COD LIVER OIL USP
Peder Devold
ALL POTENCIES
•
For Poultry & Animal Feeding:
COD LIVER OIL Devolkod®
USP & Fortified Grades
VITAMIN A & D FEEDING OILS
Devold
•
WHEAT GERM OIL
Peder Devold

SANTONIN
and
ALKALOIDS
of
American Manufacture

CHAS. L. HUISKING & CO., INC.

PEDER DEVOLD OIL CO. DIV. SANTONINE CO. OF AMERICA DIV.

215 FOURTH AVENUE, NEW YORK 3, N. Y.

Factory & Warehouse: 45 CLINTON AVENUE, BROOKLYN 5, N. Y.

Telephone: GRamercy 5-3900
Telegrams: HUISKING, WUX, NEW YORK
Cables: HUISKING, NEW YORK

London Agents:
Wheeler & Huisking Ltd.
26 Great Tower St., E.C.3

Since 1910

Silicone Barrier Preparations

The purpose of this investigation by C. R. Denton, D. J. Birmingham and V. P. Perone *A. M. A. Arch Dermatol.* 72:7, 1955 was to evaluate, through a controlled laboratory study, the effectiveness, as barrier films, of two silicone fluids, two industrial silicone greases, and several commercial silicone skin protectives. The various silicone polymers and preparations were compared with a common ointment base and thereby indirectly with each other. A number of conventional commercial nonsilicone protective ointments was also tested for purposes of comparison.

The laboratory test procedure involved spreading, by a carefully controlled method, standard thicknesses of the preparation between two sheets of filter paper and determining whether or not the challenging liquid would penetrate the preparation, and the extent of penetration.

Six commercial silicone-containing skin protectives, two silicone oils, two industrial silicone greases, while petrolatum, and 10 commercial nonsilicone-containing preparations were tested as barrier agents against a variety of challenging liquids.

This study showed that two of the six commercial silicone ointments tested were superior in performance to the other silicone barriers.

Two silicone oils were found to be very ineffective barriers, whereas two industrial silicone greases were shown to be excellent barriers by the testing procedure followed in this study.

Commercial nonsilicone skin protectives were better in some instances than the commercial silicone ointments; however, in over-all barrier action the two superior silicone ointments outperformed the commercial non-silicone skin protectives against the challenging agents tested.

Comment: We consider this study to be highly misleading, since its results can only be applicable to the original preparation, as found in its container, rather than to the preparation on the skin surface, often in different form. The efficacy of a barrier preparation for general use will depend upon the ease and effectiveness with which it can be spread on the surface to be protected, the acceptability of the film left on the skin, and its barrier action. Thus, a grease may be difficult to spread uniformly and may well leave the hands in an unpleasantly sticky condition. For this reason, emulsions, either liquid or solid, are preferred because they leave only a thin, uniform film of active ingredient. However, the film left will be the dehydrated residue of the original emulsion left after the aqueous phase has partially or completely evaporated. Furthermore, during the evaporation process, or during application by rubbing, phase inversion may take place so that the oily phase is no longer water-dispersible. For these reasons, the original emulsion may have little or no barrier action while the actual layer left on the skin could be strongly water repellant and effectively protect the skin surface from aqueous irritants. We are constantly irritated by the blind use of test methods often devised without consideration of the way in which the preparation is to be used; any considerations of product evaluation require more than routine thinking.

Skin Sterols

According to W. W. Wells and C. A. Baumann (*Arch. Biochem. and Biophys.* 53:471, 1955), most of the 7-dehydrocholesterol in normal rat skin is located in the epidermis in esterified form. Of the cholesterol in the epidermis, 63 per cent is esterified, while that in the dermis is mostly uncombined. On exposing rats to U.V. light, the concentration of both sterols increased; the increases were approximately proportional to the degree of irradiation.

Epinephrin Skin Penetration

A study was undertaken by P. J. R. Nichols (*Ann. Phys. Med.* 1954, 11, 44) to determine whether epinephrin in the form of epinephrin cream could penetrate the skin in a concentration sufficient to have a physiological effect. Blanching, following constriction of the skin vessels, was taken as an indication of penetration. Epinephrin was applied in four ways: Inunction, ionization and "vaccination" (a cream being used in all three methods), and by intradermal injection of a solution (this, to assess the effect of known concentrations on the skin vessels). Epinephrin cream in concentrations of one in 5000 and one in 100 produced no blanching of the skin when applied by inunction, but did so when applied by ionization or "vaccination." It was demonstrated that intradermal injection of epinephrin hydrochloride in a concentration of 10^{-6}, and in some subjects of 10^{-10}, would produce visible blanching. These results are taken as indicating that one in 5000 commercial epinephrin cream is incapable of producing an intradermal concentration of epinephrin equivalent to a 10^{-6} epinephrin hydrochloride solution, and probably incapable of producing the equivalent of a 10^{-10} concentration of solution. The author concludes, therefore, that if epinephrin from a commercial one in 5000 preparation or from a one in 100 epinephrin cream does pass into the skin, then it does so in a concentration below one in 1,000,000.

Perspiration and Sebaceous Secretions

Several methods for determining the visible perspiration in man were studied by R. Brun (*Arch. sci.* 7:243, 1954; through *C.A.*). These methods were used in testing the pharmacodynamic effects of over 100 compounds on sweating and on the sweat glands. Test paper methods were used to detect products naturally occurring in the sweat or those produced in special cases and to determine lipids. The lipids from the foreheads of over 150 subjects were examined and differences related to sex or age were noted. It was possible to measure the time required for the glands to regenerate the sebaceous film after the skin had been defatted.

Underarm Hair Growth

I don't know how women get used to these things. To make preliminary tests of a new antiperspirant conception which interests me, I shaved both armpits (axillae) to provide standard test grounds, and applied a different preparation to each area. I can't wait for new hair growth to occur. The weather has been very cooperative, and perspiration has been profuse. Instead of the normal sensation of moisture, there has been the tickling of rivulets; alternatively there has been the irritation caused by the friction between unlubricated surfaces. Like so many things best valued in their absence, hair serves as a useful distributing and dif fusion and separating mechanism.

Topical Vitamin A

The effect of an ointment containing 3000 units per ounce of vitamin A applied in 5 gram amounts twice daily was studied by F. Reiss and R. M. Campbell (*Dermatologica* 108:121, 1954) in ichthyosis, lichen pilaris, fragility of the hair, pityriasis tabescentium, psoriasis, and winter eczema. There was said to be a noticeable improvement over control area in these same subjects in all cases except psoriasis, although the effect on the fragility of the hair was not definite. Histological evidence was not conclusive of the keratogenetic effect of vitamin A.

have you tried

Amerchols®

LANOLIN CHOLESTEROLS in their most active form.

The Amerchols are safe, non-ionic, natural **EMULSIFIERS, PENETRANTS** and **EMOLLIENTS.** They will help you achieve superior cosmetic and pharmaceutical formulations by markedly improving stability, texture, appearance and effectiveness.

An Amerchol such as the multi-sterol, liquid **Amerchol L-101** enhances softening, penetrating and spreading activity while holding desirable moisture to the skin. The surface active Amerchols function at the interface in oil-in-water emulsions to bring about these unique effects on skin and hair.

The Amerchols are ideal ointment bases since they are stable, induce rapid drug release, and promote optimum healing rates.

WE KNOW OF NO CASE OF AN ALLERGY DUE TO AN AMERCHOL.

AMERICAN CHOLESTEROL PRODUCTS
• INCORPORATED •
MILLTOWN • • • NEW JERSEY

Write on your business letterhead for technical literature and suggested formulas.

Readers' Questions . . .

Deodorant Cream: *We have been referred to you by the manufacturer concerning the use of Actamer as a bacteriostatic agent in deodorant creams. We should like to know what proportion should be used in the cream and how it may be incorporated in the preparation.* COLOMBIA.

Actamer, thiobisdichlorophenol, is a crystalline solid almost insoluble in water, but soluble to a varying extent in a number of organic compounds. At a concentration of two per cent in a milled soap, it effectively reduces the bacterial count on the skin surface, and tests indicate it to be neither toxic nor irritating. In a deodorant cream, about one per cent should be an effective concentration, since more cream stays on the skin than is the case with soap. The cream should also be formulated so that it will contain ingredients that can function as solvents for the active ingredient.

Stearic acid	15.0
Polyoxyethylene sorbitan monostearate	1.0
Sorbitan sesquioleate	2.0
Actamer	1.0
Sorbitol	3.0
Potassium hydroxide	0.7
Water	07.3

The first four components are melted together at 85-90° C. and the last three are heated to 90°. Add the aqueous solution to the melted waxes and stir to homogeneity. Continue stirring until room temperature. Stir after standing overnight and fill cold into jars and tubes.

Sunburn Preparation: *I have been putting up a tannic acid preparation in an alcholic base for sunburn relief and have recently been experimenting with other types of base. A preparation now on the market seems to have just the properties I am looking for and I would appreciate your assistance in matching the product.* MIAMI.

The preparation you mention claims the presence of silicone, which is dissolved in a hydro-alcoholic base along with perfume and screening agent. In all probability a certain proportion of an oil like isopropyl myristate is also present to improve the solubility of the silicone. However, I do not see how your requirements for a preparation for the relief of sunburn can be the same as one to prevent burning. In the latter case, it is most important that the film left on the skin not be easily washed

away, which does not seem to be important in the case of a burn treatment. Moreover, unless your tannic acid is chemically modified, it should not be soluble in oils, so that the oil film left on the skin would not contain tannic acid in solution. I believe that you might find useful a preparation containing your tannic acid dissolved in a mixture containing two to five per cent of Carbowax 1500 in alcohol and water. Incidentally, I think the medical vogue for tannic acid in the treatment of minor burns has passed and you might consider the inclusion of a topical anesthetic, such as benzocaine, to provide anesthetic effect. In this case, silicone and the myristate ester should dissolve the anesthetic and give an occlusive film.

Cream Rinses and Wave Sets: *Could you provide me with formulas for wave sets and cream rinses. Your help would be appreciated.* BOSTON.

Wave sets can be made by dissolving various natural and synthetic gums (or resins) in a mixture of alcohol and water along with glycerin or a glycol as a plasticizer to minimize flaking. As an example, one part of gum karaya is dissolved in about 85 parts of water, add enough borax to bring the pH to slightly over seven, add five parts of glycerin and 10 parts of alcohol containing 0.1 part of methyl paraben as a preservative. A wave setting preparation can also be made by dissolving about two per cent of polyvinyl pyrrolidone in water and alcohol to make a solution containing about 25 per cent of alcohol. Cream rinses are discussed in an article by H. Hilfer in this issue.

Sodium and Ammonium Thioglycolates: *Some manufacturers use a mixture of sodium and ammonium thioglycolates in their cold wave lotions instead of ammonium thioglycolate alone. Is there a good reason for doing this.* BRAZIL.

The use of sodium thioglycolate instead of part of the ammonium thioglycolate will result in a solution with somewhat higher pH and therefore more vigorous and more rapid waving action. This increased activity is brought about at the risk of possible irritation of the skin and too drastic action on the hair. You will have to decide for yourself whether or not the use of sodium hydroxide in place of part of the ammonium hydroxide is advantageous. Neutralize about 10 per cent of the thioglycolic acid with sodium hydroxide and complete the neutralization with ammonia first to the usual pH of 9.3 to 9.5 and then a bit higher and determine the effect on the waving qualities of the solution.

have you tried

Modulan T. M.

The MODIFIED LANOLIN with new properties.

Modulan is chemically treated lanolin containing all the constituents of lanolin modified by a unique treatment to impart NEW and VALUABLE PROPERTIES.

Modulan forms clear solutions even in cold mineral oil and deposits hydrophobic, emollient films on skin and hair. These desirable protective films are waxy rather than tacky and are very pleasant to the touch.

Modulan is extremely hydrophobic — does not form greasy emulsions and is practically odorless. Because of its outstanding compatibility with oil-in-water emulsions and with soaps and shampoos, Modulan is particularly recommended for use in creams, lotions, baby products, hair preparations, make-up, and ointments.

CLINICAL INVESTIGATIONS HAVE INDICATED THAT MODULAN IS HYPO-ALLERGENIC.

AMERICAN CHOLESTEROL PRODUCTS, INC. — AMERCHOL

AMERICAN CHOLESTEROL PRODUCTS
• INCORPORATED •
MILLTOWN • • • NEW JERSEY

Write on your business letterhead for technical literature and suggested formulas.

Industry's Books...

Chemistry of the Soil, *Edited by Firman E. Bear, Editor-in-Chief, Soil Science, Former Chairman, Department of Soils, Rutgers, 373 pp., Reinhold Publishing Corp., New York, (1955), cloth,* **$8.75.**

Written by 14 expert soil chemists, this valuable monograph brings you a truly comprehensive picture of the chemical aspects of soils in relation to their development, present constitution, and the uses to which they are put. This is the first complete interpretation of the chemical processes involved in soil development.

The Principles and Practice of Medicine, *by L. S. P. Davidson, M.D., Professor of Medicine and Clinical Medicine, University of Edinburgh, Second Ed., 1036 pp., The Williams & Wilkins Co., Baltimore, (1954), cloth,* **$7.00.**

The contributors to this book are drawn solely from the staff of the Department of Medicine of the University of Edinburgh and its associated clinical units. The eight Senior Lecturers in the Department of Medicine were appointed by the University not only because of their knowledge of general medicine, but because of their interest and experience in the various medical specialties, e.g. Cardiology, Gastro - enterology, Haematology, Nutritional Disorders, Rheumatology, Tropical Diseases, etc.

Information Processing Equipment, *Edited by M. P. Doss, Research and Technical Dept., The Texas Co., 270 pp., Reinhold Publishing Corp., New York, (1955), cloth,* **$8.75.**

All the equipment used in the preparation, reproduction and utilization of written information are described in this book Chapters cover latest developments in such informational media as electric and automatic typewriters, calculating machines, stencil and hectographing equipment, collating machines, lensless copying with sensitized paper, industrial photography, microcopying, letterpress and offset printing, dictating and recording machines, punched cards, machines for handling numerical data.

1955 Medical Progress, *(A Review of Medical Advances During 1954), Morris Fishbein, M.D., Editor, 346 pp., The Blakiston Div., McGraw-Hill Book Co., Inc., New York, cloth,* **$5.**

Protective Coatings for Metals, *by R. M. Burns, formerly Director of Chemical and Metallurgical Research, Bell Telephone Laboratories, Inc., and W. W. Bradley, Member of the Technical Staff, Bell Telephone Laboratories, Inc., Second Ed., 643 pp., ACS Monograph No. 129, Reinhold Publishing Corp., New York, (1955), cloth,* **$12.**

The Basis and Development of Fair Trade *(A compendium of the law and practice of fair trade in operation in forty-five states, Puerto Rico and Hawaii) Third Ed., (March 1955), 170 pp., Paper Bound, The National Wholesale Druggists' Association, New York, no charge.*

Structural formulas, descriptions and properties of 51 chemicals and pharmaceutical intermediates are shown in simple, graphic form. The bulletin also lists National's principal quantity - production organic chemicals, as well as its list of Certified Food, Drug and Cosmetic colors and its complete line of Nacconal Synthetic Detergents.

Plymouth Brand STEARATES

STEARATE SPECIALISTS
COSMETIC SPECIALISTS

Parsons is the only major Stearate manufacturer who is truly a specialist in this field. In addition, we have had an unusual interest in the cosmetic field for 75 years. It is little wonder that we produce the best Stearates possible for the cosmetic and pharmaceutical industries.

PLYMOUTH U.S.P. ZINC STEARATES

These prime grades are offered to afford a subtle range in texture to meet any formulation requirement.

PLYMOUTH MAGNESIUM STEARATE No. 2

This Magnesium Stearate is designed specifically for use, when desired, in powder formulations and as a tabletting aid

PLYMOUTH CALCIUM STEARATE No. 57

Investigate this **new** Calcium Stearate which approaches Zinc Stearates in lubricity and physical texture

M. W. PARSONS-PLYMOUTH, Inc.

59 BEEKMAN STREET
NEW YORK, N. Y., U. S. A.

Telephone BEekman 3-3162—3163—3164
Cable Address: PARSONOILS, NEW YORK

General State Food and Drug Laws, Annotated, *by David H. Vernon and Franklin M. Depew. Commerce Clearing House, Inc., Chicago and New York. One volume, 804 pages, 7" x 10", cloth,* **$17.50.**

The full texts of all general state food and drug statutes, along with direct references to important court decisions relating to the manufacture, packaging, labeling, advertising, distribution, and sale of foods, drugs, therapeutic devices, and cosmetics.

Coordination, Control, and Financing of Industrial Research, *Albert H. Rubenstein, Editor, 429 pp., King's Crown Press, (1955), cloth,* **$8.50.**

This is the proceedings of the Fifth Annual Conference on Industrial Research, June, 1954 with selected papers from the Fourth Conference, June, 1953, sponsored by the Department of Industrial Engineering, Columbia University.

Tariffs: The Case for Protection, *by Lewis E. Lloyd, Sc.D., 207 pp., The Devin-Adair Co., New York, (1955), cloth,* **$3.50.**

This is one of the few books ever written in favor of a protective tariff.

Practical Medical Mycology, *by Edmund L. Keeney, A.B., M.D., The Johns Hopkins Hospital, 145 pp., Charles C. Thomas, Publisher, Springfield, Ill., (1955), cloth,* **$4.50.**

The author describes every disease; gives historical background, geographic distribution, source of infection, age, sex, race and occupational incidence; and discusses symptomatology, physical and laboratory findings, roentgenograms, mycology, immunology, allergy, differential diagnosis, prognosis and treatment.

Pharmacist License Tests, *by Moses A. Levine, Ph.G., St. John's University College of Pharmacy, and Arthur Liebers, 110 pp., Arco Publishing Company, Inc., New York, Paper bound,* **$3.50.**

Current Concepts in Digitalis Therapy, *by Bernard Lown, M.D., formerly Assistant in Medicine, Peter Bent Brigham Hospital, and Samuel A. Levine, M.D., Clinical Professor of Medicine, Harvard Medical School, 164 pp., Little, Brown and Co., Boston, (1954), cloth,* **$3.50.**

The physician treating the cardiac patient sooner or later has to employ one of the group of digitalis drugs to improve the function of a failing myocardium. This book offers a thorough yet concise guide for the use of these drugs.

Basic Lubrication Practice, *by Allen F. Brewer, formerly Editor of "Lubrication," 286 pp., Reinhold Publishing Corp., New York, (1955), cloth,* **$6.75.**

In this single volume is all the information you need to choose and use the most effective lubricant for industrial and power plant machinery.

The Chemistry of Synthetic Dyes and Pigments, *Edited by H. A. Lubs, Organic Chemicals Dept., E. I. Du Pont de Nemours & Co., ACS Monograph No. 127, 734 pp., Reinhold Publishing Corp., New York, (1955), cloth,* **$18.50.**

This is one of the most authoritative works ever published on the subject of synthetic dyes. Each of the 19 contributors has spent the major part of his scientific life in the field of dyes or intermediates, and all have been staff members of DuPont's Jackson Laboratory. This work is the ultimate in dye chemistry, covering 2000 organic structures, copiously documented, highly critical, and exhaustively indexed.

AVERAGE PRODUCTION—*195 A MINUTE!*

Yes, and this beautifully engineered Mateer Dual Head Filler fills either liquids or powders, including sterile products.

MATEER ELECTRIC FILLERS
Manual Semi-Automatic
Fully-Automatic

handle all kinds of material and guarantee you the ultimate in filling performance.

•

When investing in filling equipment, make your investment pay *double profits* by buying MATEER which fills both powders and liquids. Write Dept. D.

G. DIEHL MATEER CO.
Lincoln Highway, Strafford, Wayne, Pa.

concentrated oils

terpeneless oils

aromatic chemicals

essential oils

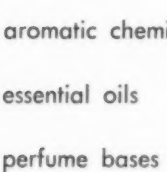
perfume bases

polak's frutal works

middletown, new york

Branch Office: Chicago, Illinois

Agents in all principal cities.

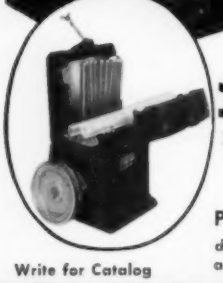


PUMP

Liquids • Gases • Slurries

WITHOUT CORROSION OR CONTAMINATION

Wavelike Motion of Steel Fingers Forces Material Through Tubing



Prices range from $55 to $500 depending on size of pump and accessory equipment required.

Write for Catalog

SIGMAMOTOR Inc.

27 North Main Street • Middleport, N. Y.

(Continued from page 254)

FDA also controls inspection and marking of certain seafoods upon voluntary application of seafood packers. All of these functions are financed by receipts collected from the respective users of these services.

The conclusions of the Committee with respect to these functions of the FDA are:

1. Appropriate authorities should consider taking such steps as are administratively permissable under the present Act to decertify antibiotics which have reached standards of identity, strength, quality, and purity which are sufficiently satisfactory to warrant decertification.

2. It would be desirable for the FDA to establish technical criteria for the administrative exemption of antibiotics and antibiotic dosage forms and that these criteria be made known officially to producers of antibiotics for their guidance and for maximum protection of the public.

3. With the decertification of some antibiotics, the loss of income to the FDA would require additional appropriated funds to assure adequate testing and control of antibiotics subject to certification, as well as the testing on a sampling basis of decertified antibiotics to assure that standards are maintained.

4. With regard to insulin and coal-tar colors, certification should be discontinued, but the FDA research program regarding certified dyes should be reviewed by a committee composed of scientists from research universities and industry to determine whether the work being done is in the interest of the consuming public.

BRUSHLESS SHAVING CREAM

(Continued from page 187)

The lubricating qualities of the cream are governed by the oil content. Mineral oil, certain vegetable oils, and petrolatum are most often used in these formulations. Lanolin acts also as a lubricating agent but is more specifically noted for its emollient properties.

Emolliency is a very desirable characteristic of a good shaving cream. As indicated in the foregoing paragraph, lanolin is a quite common emollient, but it is usually assisted by other emollient ingredients, such as cetyl alcohol, stearyl alcohol, lecithin, cholesterol, spermaceti, and glyceryl monostearate. Some of the monohydric alcohol esters of the higher fatty acids also produce an emollient effect but are usually used as lubricants. The use of glyceryl monostearate brings to mind the question of using a glyceryl monostearate emulsion. This is usually not feasible, as a certain percentage of free fatty acid as well as characteristic consistency is desired in the finished product. These properties are impossible to achieve through the use of glyceryl monostearate alone.

Although they are somewhat out of style, mucilages

(Continued on page 268)

Trade Literature

Sterling Drug History

A new edition of The Sterling Story, a history of Sterling Drug, Inc., from its founding in Wheeling, W. Va. in 1900, has been published by the Company at 1450 Broadway, New York 18. The Story outlines the developments which have made Sterling a world-wide organization of 40 active subsidiaries and divisions with 44 manufacturing plants located on five continents. Listed are 11 Sterling units manufacturing proprietary drugs; 16 units in pharmaceutical drugs; 11 units in household products, and five units producing or distributing bulk chemicals and other products used in the manufacture of consumer goods produced by others. The Brochure contains a map of the world with a listing of the company's plants and principal offices, as well as a list of the principal subsidiaries and divisions and their products.

Bulletin on Gelatin

Gelatin Research Society of America, 17 John Street, New York 38, is distributing the Second Edition of Technical Bulletin on Gelatin which is specifically intended for those manufacturers who use gelatin pharmaceutically or in some related product. This 23-page illustrated booklet gives a wealth of information useful to drug and cosmetic makers.

New MM&R Catalogue

The latest edition of the new MM&R king-size catalog, issued by Magnus, Mabee & Reynard, 16 Debrosses Street, New York 13, has been completely revised and supplemented with additional information about many of its products.

Freon Bulletin

"Kinetic" Chemicals Division, E. I. du Pont de Nemours & Company, has issued bulletin KTM-19, entitled Density of the "Freon" Fluorinated Hydrocarbon Compounds." The purpose of the bulletin is to assist users to solve problems involving the weight relationship of fluorinated hydrocarbon propellents. Given are the densities of solutions of Freon-12 dichlorodifluoromethane and Freon-11 trichloromonofluoromethane, and solutions of Freon 12 and Freon 114 dichlorotetrafluoroethane. Also graphically presented is density data on the vapor above these propellent solutions.

Gluconic Acid

Chas. Pfizer & Co., Chemical Sales Division, 630 Flushing Avenue, Brooklyn, 6, N. Y., has issued a 12-page, paper bound, index-type technical bulletin outling the uses and properties of gluconic acid. Charts, reactions, derivatives, applications, assay information, specifications, and a number of selected references are included.

Seaplant Chem. Booklet

Colloids Out of the Sea is the title of a booklet being distributed by Seaplant Chemicals Corporation, 63 David Street, New Bedford, Mass. Describing some of the interesting uses for SeaKem colloids, including pharmaceutical and cosmetic uses, the brochure summarizes the various stabilizing functions of SeaKem colloids. A picture sequence shows how this "modern product of modern processing techniques" is derived from the basic source material, Irish moss.

PRINTING THAT DEFIES WEAR
for polyethylene bottles
For printing that will not come off, leading packagers choose Poly Perm.
• clean, legible, flexible
• will not crack, peel or smear
• alcohol resistant, oil-proof
• unaffected by hot or cold, clear or saponified water
Write today for details and prices:
POLY PERM PRINTING, INC.
64-74 West 23rd Street · New York 10, N. Y.

IF YOU NEED PRINTING on POLYETHYLENE BOTTLES

It will pay you to investigate this advertisement.

Screen printing has always been acknowledged the best method for marking on plastic containers. In most instances it is cheaper than hot stamping, and there is no comparison for legibility, durability and adhesion to your container. For appearance, it has never been equalled by any other method.

We will stand back of any job, large or small, without loss to the customer.

Leading drug and cosmetic houses choose Poly Perm.

Send us your container for a quotation.

POLY PERM PRINTING, INC.
64-74 West 23rd St., New York 10, N. Y.

Telephone: CHelsea 3-0021

Announcing

The National Formulary X-1955 completely revised

Contains: 733 Monographs of Specifications for Drugs and Preparations.

Contains: 259 Monographs *New* to National Formulary X.

Published by authority of The American Pharmaceutical Association.

N.F. X is Official Under The Federal Food, Drug and Cosmetic Act.

Ready August 1955

Price $9.00 postpaid

(In New York City add 3% sales tax)

Book Department

DRUG & COSMETIC INDUSTRY

101 West 31 St. New York 1, N.Y.

(*Continued from page 266*)

such as tragacanth and Irish moss were at one time, and still are to some extent today, used to stabilize the emulsion and help retain moisture in the product. This latter function is achieved now by some of the newer humectants; and, as far as stability is concerned, proper formulation even without the use of these gums will overcome the problem of stability.

One of the most important problems confronting the chemist is that of achieving a product that will rinse easily from both the face and the razor. This is the reason for the inclusion of the synthetic detergents and wetting agents which were discussed in an earlier paragraph. In addition to the rinsability the wetting agents impart to the cream, they also improve the wetting and hair softening properties of the cream. For this reason most of the better creams on the market contain a synthetic wetting agent other than soap. All three classifications, anionic, non-ionic, and cationic, are used; but, due to problems of corrosion, non-ionics prove most satisfactory.

Irritants and antiseptics are both added to some shaving creams. Such irritants as menthol are used to impart a characteristic refreshing coolness, thus masking, at least to some extent, any irritation due to the razor. Menthol, if used, should be used only sparingly. About 1/10th of one per cent will serve the purpose. The antiseptics used are generally the quaternaries, as they serve the twofold purpose of both wetting and introducing an antiseptic agent.

A few comments regarding equipment are in order at this point. The best method to use in the manufacture of shaving cream is that of a steam jacketed kettle, preferably either glass lined or stainless steel, although tinned copper or aluminum may be used satisfactorily. The tank used in the preparation of the caustic solution must be of such a material that will not be attacked by the caustic. Glass lined tanks are best for this purpose, but stainless steel can be used. Cast iron tanks should not be used as they will often discolor the cream. If it is impossible to use anything other than cast iron, it is necessary to revise the formula, adding a quantity of sequestering agent, such as EDTA (ethylene diamine tetraacetic acid). Agitation should be provided by a wide-bladed mixer equipped with a variable speed rheostat. It should, of course, be strong; and the blade and shaft should be made of stainless steel. The blade should be designed so that it will be as effective in mixing the cream after it is stiffened as it is while the cream is liquid. It is most important that the mixer is capable of being slowed down below ten rpm, as rapid stirring will aerate the cream.

The use of water coils in the tank for the purpose of cooling the cream is optional with the manufacturer. It is desirable in that rapid cooling prevents excessive evaporation; but, of course, it is an added expense. Lastly, it is important that the proper measuring vessels and weighing scales be accurate in the measurement of the ingredients, and all of this manufacturing

equipment should be supplemented with the apparatus needed for quality control of the finished product.

Packaging of brushless shaving creams presents some difficulties. The most popular type of packaging is the collapsible tube. There are several reasons for this popularity, the most prominent being the unbreakable nature of the tube and its inherent portability. It is convenient in that exactly the right quantity of shaving cream can be delivered without any difficulty.

The packaging of shaving creams in jars is much easier for the manufacturer, if not as convenient for the consumer. As a matter of fact, many well-known brands of shaving cream are sold in glass containers, and it is recommended that any small manufacturer interested in marketing a shaving cream use such packaging. If it is desired to use collapsible tubes, it is best to leave the manufacture and/or packaging of the cream up to a private label house, as equipment for this type of packaging is very expensive.

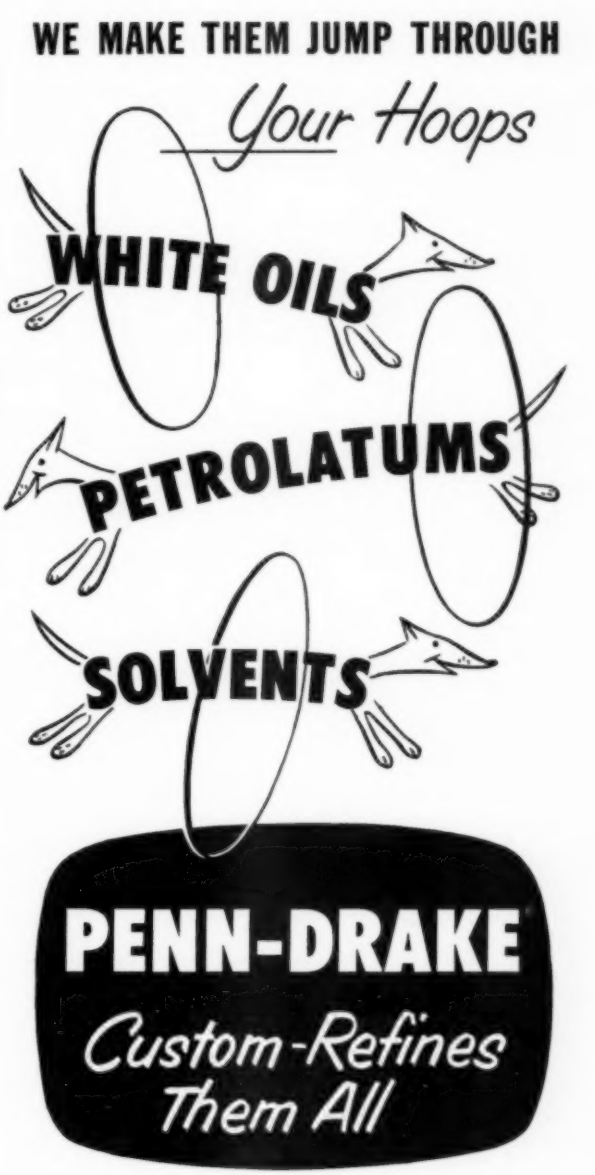
In packaging a shaving cream in tubes it is necessary to subject both the formulation and the tube to extensive control testing. Discoloration due to the metals used in the tube has been a very serious problem in the past. However, this difficulty has been all but eliminated by the use of tubes with a wax or resin innercoat. Another difficulty to be contended with in tubes is the liberation of gas by the action of the alkali in the cream upon the metal in the tube. Re-formulation or the use of wax lined tubes will eliminate this situation. Discoloration of a cream packaged in glass containers can arise due to an interaction between the cream and liner. However, this problem is very rarely encountered.

The following formulations are typical of the newer types of brushless shaving creams. Most of them have the desirable pearliness characteristic of brushless shave cream, and all are excellent formulations. It is necessary at this point to remind the reader that due to variations in the raw materials, it may be necessary to modify slightly the following formulas to suit his individual needs.

No. 1
BRUSHLESS SHAVING CREAM

Stearic Acid	18.0 per cent
Lanolin	4.0 " "
Propylene Glycol Monostearate	4.0 " "
Isopropyl Palmitate	4.0 " "
Glycerin	2.0 " "
Triethanolamine	1.0 " "
Water	66.8 " "
Perfume	0.2 " "

Melt the stearic acid, lanolin, propylene glycol monostearate, and isopropyl palmitate together in a suitable container and heat to a temperature of 80° C. Heat the water and glycerin in a separate container to the same temperature. Add the triethanolamine to the hot water and pour this mixture into the molten fats with constant stirring. Continue this stirring until the cream has started to thicken. When it has cooled to 50° C., add the perfume and stir intermittently until the cream



You tell us what you want white oils, petrolatums or solvents to do. Then we custom-refine them with the distinctive properties you need.

White oils with specific viscosities, pour points and other properties . . . petrolatums with unusual consistencies and specific melting points—these are typical products of our custom-refining service.

Consult our technical staff and benefit by their long experience in the manufacture of these products and their use in various applications.

penn drake products

PENNSYLVANIA REFINING COMPANY
BUTLER, PENNSYLVANIA
Branches: Cleveland, Ohio and Edgewater, N. J.
Representatives in all Principal Cities

has solidified. Allow the cream to set for 18 to 24 hours, stir for five minutes, and fill immediately.

No. 2
BRUSHLESS SHAVING CREAM

Stearic Acid	16.4	per cent
Cetyl Alcohol	2.0	" "
Petrolatum	4.0	" "
Mineral Oil	1.0	" "
Glycerin	2.0	" "
Lanolin	2.0	" "
Span 60	2.3	" "
Tween 60	1.0	" "
Menthol	0.1	" "
Potassium Hydroxide	0.7	" "
Triethanolamine	0.9	" "
Water	67.3	" "
Perfume	0.3	" "

Melt the stearic acid, cetyl alcohol, petrolatum, mineral oil, lanolin, Span 60, and Tween 60, and heat to a temperature of 80° C. Heat the water, glycerin, and potassium hydroxide together to the same temperature. Add the triethanolamine to the water and pour the mixture into the molten fats with constant stirring. Stir until a homogeneous cream forms. Continue to stir intermittently until the cream has cooled to 50° C. Dissolve the menthol in the perfume and add it to the cream at this temperature. Mix well into the cream. Allow the finished cream to stand overnight and stir for five minutes just previous to filling.

ANTIBIOTIC PRODUCTION DEVELOPMENT

(Continued from page 185)

ganisms can generate as much heat as 70 BTU's per hour per gallon. An average fermentation tank could heat a five room house. Hence, without temperature control, in about an hour every organism in the tank would, quite literally, stew in its own juice.

To maintain a uniform environment in these enormous tanks—some of which are two stories high and hold as much as a railway tank car—we are dependent upon automatic controlling and dispensing devices. Without uniform pH control throughout the tank, the organisms would be useless. Finger-like probes inside the fermentors, maintain this control by feeding information to electronic circuits which, in turn, control the rate of feed of pH reagents into the tank.

Once environment requirements were met and deep tank fermentation was a reality, penicillin production spiraled from the 1943 total of 21 billion Oxford units, enough to treat about 28,000 patients, to 1,633 billion units in 1944, or enough to treat more than two million patients. In 1954, the U. S. bulk production of penicillin salts was something like 430 trillion units, or enough to treat over 570 million patients.

Biochemical engineering remained, however, as it must always, dependent upon laboratory assays. Learning to use the bioassay method devised by Heatley and to interpret the significance of statistical variation inherent in it, consumed a long and tedious chapter in the history of the antibiotics.

One of the big stumbling blocks in this chapter was the lack of flat-bottomed petri dishes, without which it was impossible to make Heatley's bioassay method work and so tell when yield improvements had been made.

Until existing glassware was redesigned, the zone of inhibition was actually a twilight zone in which the potency of the fermentation broth was obscured by the curvature of the dish.

Flat-bottom petri dishes finally arrived in the industry, however, and at just about the time that Q-176, a new strain of *Penicillium chrysogenum*, made its appearance.

A fantastic producer, Q-176 was a long time in coming. Its genesis, however, actually began to take root two years before Fleming's report on penicillin appeared in England. It was then that a geneticist at the University of Texas published a paper—apparently unrelated—which was one day to help speed Q-176 and mass production of penicillin into being. The geneticist, Dr. H. J. Muller, discovered that X-rays could change the rate of mutation—an observation that won him the Nobel Prize.

Prior to Muller's work, we had had to depend on nature for mutations, and mutations rarely occur naturally. Muller gave us a means of accelerating evolution—just as man, in making diamonds, in a flash transcends ages of evolutionary time.

To an industry dependent upon asexually-reproducing organisms, Muller's observation meant that X-ray bombardment could force mutants into being, mutants which might be better antibiotic producers.

Late in 1944, geneticists at the Carnegie Institution's Cold Spring Harbor Laboratory X-rayed a culture of *Penicillium chrysogenum*. Among the viable spores were some that yielded the unheard of amount of 400-500 units of penicillin per cc—twice the highest concentration previously recorded.

Shortly after that, workers at the University of Wisconsin bombarded the X-rayed strain from Cold Spring Harbor with ultraviolet rays. Out of their experiments came Q-176—the mutant that yielded roughly 1000 units of penicillin per cc and is the ancestor of most of today's producers of penicillin.

Out of Q-176 and mass-produced penicillin there evolved yet another mutant—the microgeneticist. Geneticists have played a major role in agriculture ever since Mendel's 35-year-old principles were rediscovered in 1900. The microgeneticist, however, is an entirely new breed of scientist, born of the antibiotic age.

Microgenetics has given us the tools by which we can force microbes to out-produce their ancestors—in short, to make them industrial producers.

But even with a good producer, there is precious little penicillin when you start to isolate it from the tons of mycelium and gallons of waste in the fermentation tank. The antibiotic is usually present in broth

concentrations of no more than a few tenths of one per cent.

The trick is to separate a crude, fragile intermediate from the dilute fermentation broth, to separate it fast and in so doing, to raise its purity and concentration to a point where crystallization techniques can be economically used.

The U. S. production of antibiotics in 1953 totaled just under 1,600,000 pounds. In order to produce that amount of material, the industry had to process something like 450 million gallons of fermentation liquors, or more than 280 gallons for every pound of antibiotic.

That is today's recovery. In the early days it was less than a tenth of that. Recovery problems with the antibiotics have demonstrated how wise was Spinoza's statement when he said that "All things excellent are as difficult as they are rare." There were agonizing problems with penicillin as there have been with every useful antibiotic that has come along since.

Penicillin, until it is crystallized, is one of the most unstable compounds known. In acid, it lasts for seconds; on the alkaline side, it instantly decomposes. And decomposed penicillin is an unpleasant thing to work with.

When penicillin-G breaks down, it releases phenylacetic acid—which left our labs smelling like ill-kept barnyards. It was one smell that even septic showers could not expunge and left us with a problem on our hands, in more than one sense.

Happily, we subsequently learned to recover penicillin, without odor, in a whirlpool-like counter-current centrifugal separator known as the Podbielniak extractor.

Many of penicillin's progeny have proven easier to recover. Some, we have even been able to recover by direct precipitation. Magnamycin, for instance, has been called the "mothball" antibiotic because it selectively precipitates out with para-dichlorobenzene or naphthalene. Terramycin, on the other hand, forms a water-insoluble complex with quaternary ammonium salts—the family of compounds that furnishes many of our antiseptics.

Streptomycin was at first precipitated from broth with a dye known as Orange II. At one time Pfizer alone consumed about 50,000 pounds of this dye per month. But Orange II can only be used once in recovery, and with characteristic economy, the industry began searching for a better agent. In due time, we found it in a carboxylic acid ion exchange resin that can be used over and over again.

This tireless resin is no less unremitting than the vigilance we must exercise in quality control. We must be certain beyond peradventure that our anitibotics will do what they are designed to do—help cure the patient.

Unlike the age-old root extracts and crushed leaf prescriptions, the antibiotics must be produced independent of the vicissitudes of season, soil and sun. The antibiotics are and must be free of variation; they are single chemical entities with constant pharmacological activity.

"HORSE HEAD" U.S.P. ZINC OXIDE
IMPROVES COSMETIC POWDERS
5 WAYS

1. BETTER APPEARANCE
High covering power
Warm whiteness
Fine texture

2. LONGER-LASTING
Superior adherence
High oil absorption
Perfume fixative

3. DEODORANT
Neutralizes perspiration acids

4. SKIN PROTECTION
Soothing
Mildly astringent

5. SUNBURN PROTECTION
Screens out sunburn rays

THE NEW JERSEY ZINC COMPANY
Founded 1848
Products distributed by
The New Jersey Zinc Sales Company
New York · Chicago · Boston
Cleveland · San Francisco · Los Angeles

PARTITION MANUFACTURING COMPANY

CARDBOARD PARTITIONS AND SPECIALTIES

165-173 FRANKLIN AVENUE • BROOKLYN 5, N. Y. • ULSTER 5-8100

Gentlemen:

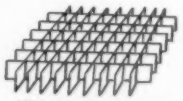
Fragile items require careful packing for safe transportation. 40 years of partition manufacturing experience is assurance that your partition needs, regardless of size or quantity will be GIVEN exacting care.

Suggestions, samples and estimates promptly mailed

Very truly yours,

PARTITION MANUFACTURING CO.

DECORATIVE EDGED



UTILITY PARTITIONS

WANTED: Salesmen to sell above items. Write for particulars.

DRYING TIME
CAN BE
CUT IN HALF
WITH HIGH-SPEED
COLTON OVENS

RECOVER ENTIRE OVEN INVESTMENT IN A FEW MONTHS THROUGH SAVINGS

ARTHUR COLTON COMPANY
Established 1887
Div. Snyder Tool & Engineering Company
3495 EAST LAFAYETTE • DETROIT 7, MICHIGAN

But we are dependent upon living things to produce these entities and like human beings, plants are unpredictable. To eliminate the unpredictable, we run over 100 control tests on every lot of antibiotic before it is packaged, 16 on the finished product.

Most antibiotic plants staff some 50 to 100 people who do nothing but insure constant quality. Nearly 1,000 man hours a week go into control of the finished product in a normal production schedule period.

Control extends even to the packaging room since the "final" tests must be passed by a packaged antibiotic. This is no easy task as antibiotic crystals go airborne at whim and fly through the packaging room like chaff through a silo. The packaging department has taken our engineers into new and unexpected fields: designing clothing that must be sterile, non-electrostatic, lint-free and yet something women will wear. Cotton won't do; there is known way to make it lint-free. Nylon carries electrostatic charges. Only with the development of Orlon was the industry able to lick completely some of its clothing problems.

In some "sterile areas" machines have, and must, replace people. Lives cannot depend on chance and error must be eliminated, even the human variable.

Yet—and paradoxically—human variation has made penicillin a reality. A mixture of pure science and business acumen has transformed a mold's weapon into an industry. Together they have made the antibiotics relatively cheap and available to all.

As late as 1943, 100,000 units of penicillin cost $20 at the manufacturer's level. Up to the spring of '43, the entire world production of penicillin was just about enough to treat 100 patients.

Today, 100,000 units of penicillin at the manufacturer's level cost less than one cent in bulk form.

Before the first dose of mass-produced penicillin was marketed, however, private firms spent $25 million and the government, $3 million, in development. One-fourth of the employees of a typical pharmaceutical firm don't "produce" anything. That is, they don't mix ingredients, tend machines, or fill bottles with drugs that can be sold.

The chemical industry today employs approximately 35,000 people in research, as opposed to some 6,500 people twenty years ago. This growth has taken place for a very simple reason: research—vigorous, constant, and costly research—is the lifeblood of the pharmaceutical industry. It is our insurance against stagnation and obsolescence. It is a down payment on future business.

Research, however, is essentially wedded to technology, which is the utilization of discovery, and in our industry no research development can go into production until pharmacologists and clinicians determine its value. If a drug flunks its clinical trials, it will never be produced. Clinical evaluation in medical centers throughout the country determine the ultimate fate of every research find.

Only after clinical approval can the other specialists step in, just as they did in 1941.

Then, chemical engineers—microbiologists—physicians—organic chemists—statisticians—mechanical engineers — bacteriologists — economists — pharmacologists — analytical chemists — mycologists — biometricians — biochemical engineers — phytopathologists—and yet others—, working together, translated the laboratory curiosity that was penicillin into a commodity. Together, they carved out man's new conquest of the microscopic world.

BIG BUSINESS IN PHARMACEUTICALS

(*Continued from page 188*)

hormones. Now any pharmaceutical manufacturer worth his salt is in the steroid hormone business in one way or another. Certain houses were responsible for the development of antihistamines, now antihistamine type products are sold by a long list of firms for far more uses than was originally envisioned. It is the same in vitamins, sedatives, ulcer remedies, tuberculosis drugs, or any other class of remedies which one can think of.

But it is the competitive practices of each jumping into the field of the other, even to the extent of ignoring the rights of existing patents in some instances, that is making the industry a jungle. Furthermore, there is the evil of advertising a product by disparaging the products of others which will eventually lead to complete distrust among the members of the industry, as well as complete distrust of the industry by the professions of medicine and pharmacy, and the public. The pressure on the top in the firms with professional management should not be of such a nature as to either induce this sort of competitive tactics or to condone it if it does arise withint a particular firm.

Members of the pharmaceutical manufacturing industry should realize that no manufacturer in the industry can be the leader in all products or types of products. Certainly, a manufacturer with a large and adequate research staff knows that other firms have large and adequate research staffs also. And he also knows that the research staffs of different companies have greater abilities in certain directions than the others. And as a rule, all a pharmaceutical manufacturer needs to grab off the lion's share of the business in a certain new product is a headstart. Given a year, more or less, with an entirely new product of outstanding efficacy, and the originator will be so far out in front that no one will ever catch him. All that the ten or twenty, or more imitators will do, split up among them perhaps less than half the market no matter how much detailing, direct mail, and medical journal advertising they do. With an efficacious new pharmaceutical product the market goes to the manufacturer who is "firstest with the mostest."

If the present practice of everybody and his brother jumping into the market for every new type of prep-

FOR THE DRUG AND COSMETIC INDUSTRY

CHEMICAL INTERMEDIATES
acetaldehyde
acetanilide
acetic anhydride
benzoquinone
isobutyraldehyde

STABILIZERS
Tenox antioxidants for such oils and waxes as paraffin, stearic acid, mineral oil and lanolin

PLASTICIZERS
dimethyl phthalate
diethyl phthalate

SOLVENTS
acetic acid
acetone
ethyl acetate
isobutyl acetate
isobutyl alcohol
isopropyl acetate

PERFUME AROMATICS
hydroquinone dimethyl ether

HEMOSTATIC AGENT and ADSORBENT
oxidized cellulose

For samples of these Eastman chemicals, call or write to our nearest sales office.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; New York—260 Madison Ave.; Framingham, Mass.—65 Concord St.; Cleveland—Terminal Tower Bldg.; Cincinnati—Carew Tower; Chicago—360 N. Michigan Ave.; St. Louis—Continental Bldg.; Houston—412 Main St. **West Coast: Wilson Meyer Co.,** San Francisco—333 Montgomery St.; Los Angeles—4800 District Blvd.; Portland—520 S. W. Sixth Ave.; Salt Lake City—73 S. Main St.; Seattle—821 Second Ave.

Eastman CHEMICAL PRODUCTS, INC.,
KINGSPORT, TENNESSEE—a subsidiary of Eastman Kodak Company

aration continues, the pharmaceutical manufacturers are going to find themselves back in the unenviable position of those manufacturers who years ago were making a long list of products which everyone else made. This was the unprofitable practice which caused the large majority of these firms to drop the long line of unprofitable items on which they just about traded dollars, and restrict themselves to specialties. Many of the pharmaceutical manufacturers of today, whose managements made this change a good many years ago, should examine their positions today. They might find that they are just about back in this old position even though the products which they sell today are all sold under individual trademarks and are therefore considered specialties.

THE DOCTOR'S PSYCHOLOGY AND SELLING

(*Continued from page 177*)

effort to match and repay his unpaid distributive role.

Beyond the feeling of being let down, there are two other sources of conflict which cause many doctors to look at advertising material with jaundiced eyes. One relates to him as healer—prescriber, the other as an independent individualist.

As to the first, here are the physicians' most characteristic reactions:

- He resents ads or drugs or patients or public articles that relegate him to the position of "pill dispenser," rather than chief diagnostician and healer.
- He seeks reinforcement of his self-image and the patient's image of himself as all-powerful healer, "like God's agent on earth," but fears over-expectations on the part of the patient, and again tends to blame the drug companies for many of these over-expectations.
- He wants the drug companies to share his feeling that *his* skill is much more important than the company's drug. In a multiple forced choice projective test, three times as many doctors assigned credit for making the patient better to "the skill of the physician" rather than to the "properties of the pharmaceuticals prescribed."
- All physicians welcome and utilize the convenience of "ready-mixed" compound medications, yet at the same time, many express the desire to add some individual touch, to express their personal diagnostic and therapeutic role.

What can company ads do to neutralize resentments based on the above motivations? Here is what we have recommended:

1. *Build up and reinforce the doctor's prescriptive and healer role.* In advertising and public relations, present your company and your drugs as his tool, making the M.D. more powerful.

2. *In public information and any institutional advertising, help the doctor in building a realistic level of patient expectation.* Guard against raising false hopes.

3. *Make doctors your research partners—share credit with them.* Dramatize the intention of your research to meet his needs, to make him a better healer, not just for your sales and profits. To the extent it is practicable, invite his participation and take him into your confidence on research projects in progress.

4. *Explore possibilities of offering the physician ways of adding his personal touch to "ready-made" compound medications.* At least recognize and reassure his psychological need to make these compounds "his own."

5. *Develop mind-reading ads, that show you understand the real meaning of his longing for the "good old days," when doctors used to compound their own prescriptions, etc.*

As to the physician's conflicts as an independent individualist, we have found that:

- The doctor tends to respond to every communication that treats him as an *individual* and tends to shy away from any communication that deals with him as part of an *anonymous mass.*
- His second conflict in this area arises from his strong desire to stay *independent*, and the strains resulting from his actual *dependence* in many ways on pharmaceutical advertising and detail men to keep him informed, a dependence made necessary by his desire to keep himself up-to-date on new developments in his field, new drugs, etc.
- Another interesting expression of this conflict is reflected in his desire to see himself and to be seen by the patient as a professional, an *idealist dedicated to service*, and at the same time to be a *practical and successful business man.*
- Many physicians feel that their status as independent individuals is being slighted by the tendency of many detail men to refer constantly to some "most respected" doctor "X" who has tried and is now using some drug. What he seems to be saying between the lines is "how come they never select me as "a respected physician" to try their medication; how come they never tell other doctors that I am a respected colleague who is using their product," etc.

In view of this situation, we indicated, among others, the following practical steps:

1. Ads should be *focused on the doctor and his feelings rather than on the drug.*

2. *Make all company-doctor communications*, whether through ads or direct mail or detail men, *as personal and individual as possible.*

It seems desirable to take all possible steps to personalize the company, either through one of the top executives or research specialists, etc.

3. *Give a personal, or at least a personality stamp to your company and your product advertising.* Develop a distinctive character, and tone, for each of your products and for all of your company's advertisements, a character and tone as recognizable as that of a familiar person. Explore possibilities of wider use of informal style, typed communications, handwritten messages, pictures of company executives, etc.

Portray the patient as a total human being. And particularly dramatize the patient's feelings of appreciation about the doctor in connection with your drug.

4. *Guard against any shrill market-place "patent medicine" tones: maintain a quiet-voiced, doctor's office tone in all copy and layout,* developing emphasis with white space or appropriate color, etc.

Finally, there is another trait of character which must be taken into consideration: the doctor's conflict as a modern conservative.

We found almost all our respondents torn between two self-images, heavily reinforced by patient images of the ideal physician: a cautious conservative who sticks to tried and tested medication,—and, at the same time, a well-informed modern healer who employs all the newest developments in pharmacy and medicine.

This attitude has a great influence upon the doctor's choice of the drug he uses.

Physicians tend to respond to drugs and advertising that strike a "middle of the road" note—that help resolve the conflict between their desire to be *conservative* yet not *old-fashioned, modern,* yet not an *"experimental station* for pharmaceutical manufacturers."

As far as new drugs are concerned, the doctor's readiness to accept them varies in relation to the degree of his emotional attachment to his present medication. Here are some prevalent attitudes we have observed on this score.

There is a varying pattern of brand loyalty from enthusiastic to routinized to resentful.

The tone of the doctor's comments indicate a lower level of believability for new product claims than for pharmaceutical advertising generally.

He searches for *reassurance symbols,* to quiet his fears in relation to new drugs:

He is impressed by frank disclosure of limitations, side effects, counter indications, a tone of progress rather than perfection.

Reports of tests and results with patients by hospitals, clinics or several doctors like himself seem to be more persuasive than reports of laboratory tests or those by an individual M.D. like himself.

He responds to new names that sound medical and ethical rather than like patent medicines, and that facilitate his association with its uses.

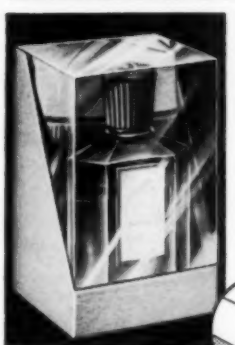
The intention of the drug company is an important screening factor in his reaction. He seeks for clues in the advertising and in the comments of the detail men to determine whether it is a genuinely new product, designed to help him with some unmet need, or not a really new product and developed just "to help the company earn a fast buck."

These, then, are the highlights of our major findings. They make it evident that the pharmaceutical industry is at a crossroads: it must re-evaluate its relationship to the physician.

The modern physician is one of the few remaining individualists in our culture. He perceives, however, that in this age of dynamic changes his traditionally

DOES THIS MEAN YOU?

We want a super sales man with excellent following in essential oil field. Successful past, capable of wonderful future, with promotion following performance. A man who digs in and digs out sales. Aggressive, hard to discourage, persistent—a real producer. Leading organization. All replies held in utmost confidence. Write fully to Suite 1701E, 50 East 42 Street, New York, N. Y.



LOW COST TRANSPARENT ACETATE COVERS (OR COMPLETE BOXES)

AUTOMATICALLY MADE — ELECTRONICALLY SEALED

better because

- All corners are heat-sealed — hold longer, look better.
- Corner ridge made by electronic seal gives added strength.
- Uniform, consistently high quality is achieved only by automatic machinery.
- Only the highest quality acetate in all thicknesses is used.

Increase the sales potential of your product through quality transparent packaging. A new, revolutionary method of producing acetate covers for boxes through the use of fully automatic high speed machinery results in a better, stronger product. Container Craft Inc. makes all these preferred features available to you at the lowest cost ever!

Sizes from 4" x ¾" to 10" x 6". Write or call for quotations regarding your requirements.

CONTAINER-CRAFT INC. 31 WEST 21st STREET · NEW YORK 10, N. Y. · WATKINS 4-8625

privileged status is threatened, and fears that attempts are being made to get him off his pedestal. Vulgarization of medical knowledge, and a "populars cience" approach to his field are only a couple of the symptoms which irk him and fill him with anxiety.

The pharmaceutical industry can either go over the physician's head and join hands with the lay public, or it can become the physician's ally. The doctor's dilemma is not an easy one. He is fighting for retaining his status and saving his psychological security. In his efforts to find a new equilibrium within modern society, he needs and must have all the help the pharmaceutical industry can offer.

PATENT THOUGHTS AND TRENDS

(*Continued from page 217*)

Patent Office is said to interpret the patent law as excluding even process protection. The Italian Appeal Commission has compromised by holding that process protection is proper if other processes exist for making the product. The Italian Supreme Court has held that the whole prohibition is unconstitutional. As of the present, Italian patent protection on pharmaceutical inventions is obviously highly questionable.

Great Britain has turned full cycle in its attitude on this question. Product claims were permitted before 1919. Then, largely as a result of numerous broad product claims obtained by German inventors before World War 1 and the fear of domination of the British industry by German interests, the process limitation was introduced. However in 1949 product claims were again permitted in Great Britain.

Lately, a restrictive view on this subject has been shown by a number of Latin American countries, starting with Argentina and now including Brazil and Mexico. None of these permits independent pharmaceutical product claims. Mexico insists that process protection must be limited to the preparation of specific compounds using specific reaction conditions.

V. Working and Compulsory Licensing

Most of the major foreign countries require that an invention should be worked within usually three years from the date of the grant. What is meant is that the invention should be carried out within the foreign country to an extent sufficient to meet the full requirements of the public at a reasonable price. The U. S. of course has no such requirements.

Where non-working is shown the remedy in the Convention countries is "compulsory licensing."

Robbins points out that if a pharmaceutical product is not successful no one is likely to ask for a license. If the product is of importance, however, then the U. S. owner of foreign patents must be prepared to face the fact that if he does not manufacture abroad he may have to share the market with foreign manufacturer, subject of course to royalty payments.

VI. Importation of Products

Robbins summarized the main consideration succinctly as follows:

"A very important question for U. S. pharmaceutical manufacturers, both offensively and defensively, is-do foreign pharmaceutical patents prohibit importation of the product? It can be stated quite categorically that in Europe and in practically all important countries outside Latin America, they do, and in general process claims are regarded as inherently including the immediate product thereof. The burden of proof as to whether the product is actually made by the claimed process will in general be either on the infringer or the patentee depending on whether the product is new or old. However, in a large number of countries in Latin America, it is considered that process claims do *not* cover the product, and since product claims are not permitted, it follows that process claims cannot be used to stop importation of the product. In the absence of much patent litigation in these countries, to some extent this is a matter of opinion; however there are certain decisions along these lines, which indicate a positive trend."

VII. Patents for Mixtures

Where known ingredients have pharmaceutical properties are mixed with other known ingredients which in themselves may be pharmaceuticals or carriers the protection of such mixtures is difficult. If the results are merely the sum of the known properties of the ingredients protection will be denied. Synergism involving some form of inter-action of the ingredients in the mixture is generally required. Robbins notes that there is probably a general tightening up in most patent offices as regards mixtures and makes the observation that "since some synergism between active compounds is more or less normal, examiners are beginning to look for exceptional or unexpected synergism."

VIII. Patents for Antibiotics

The protection of antibiotics involves some new patent problems. Up to now, basic antibiotics patents have been granted in very broad form in most countries throughout the world. However, Robbins notes some tightening up in this regard and singles out Brazil as having exploded a bomb by taking the position that in the case of antibiotics what is really claimed is the exclusive use of a living thing (species of mold) belonging to the vegetable kingdom in a known fermentation process. No protection is given because otherwise the applicant would have a monopoly covering the use of a living thing.

IX. Selection of Countries

Robbins lists the following main factors which should be considered when selecting foreign countries in which

to obtain patents for pharmaceutical invention:

(a) The nature and potential importance of the invention, and whether in the absence of foreign patents copying would be temptation for competitors.

(b) Whether product or process claims could be obtained in a given country; whether such claims would be broad or limited; and whether they would provide protection against importation.

(c) Whether the nature of the invention is such that it would only be used in a few countries, or would have a potential market throughout the world.

(d) Whether the foreign patents would be used by existing or prospective licensee or affiliates, or would be intended primarily to protect export markets—bearing in mind the attitude towards pharmaceutical patents in the particular country and also the ultimate possibility that others might apply for compulsory licenses in the absence of domestic manufacture.

X. Form of the Foreign Specification and Claims

This is a subject of interest primarily to patent solicitors but Robbins' idea of the ideal specification for a pharmaceutical invention may be of interest here also. He believes that such a specification should include the following portions and would then be suitable for filing abroad whether the particular country permits product claims or only process claims:

(a) The introduction should refer to the generic name and nature of the product.

(b) Any problems heretofore existing in the same general field should be mentioned, and the purpose of the invention in relation to elimination of such problems.

(c) A clear definition of the product should be given preferably by a structural formula; it should also be indicated whether or not the product is believed to be new.

(d) A general statement should then be given of the method or alternative methods for making the product, indicating whether or not the process is believed to be new, or is an improvement in a known process, or is a known process using new reactants.

(e) The pharmaceutical and other identifying properties of the product should be set out, if it is new, with any appropriate chemical or clinical or other test data.

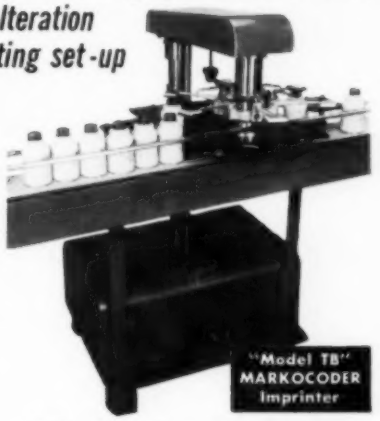
(f) Specific examples of the process of preparation of the product should then be given, in sufficient number to illustrate the general formula.

XI. What Can Be Protected

This too is a subject of primary interest to the patent solicitor rather than to the patent owner. Robbins makes the point that from the viewpoint of validity and obtaining strong pharmaceutical patents it is probably better to limit the claims to new compounds for which the beneficial pharmaceutical properties have been positively demonstrated. Then if new compounds in the series are later found to have similar properties

NEW *portable* **CODE-DATING MACHINE attaches to *any* production-line**

. . . requires no alteration of existing set-up



PORTABLE! Just wheel it up to the line
ADAPTABLE! Adjusts to your packaging line
COMPACT! Occupies only 24" x 30" of aisle space
HIGH-SPEED! Imprints up to 600 units per minute, depending on size and shape of container
ADJUSTABLE! Readily adjusts for containers of different size
ECONOMICAL! Low initial cost, negligible maintenance cost

Write for full details today

Fully automatic packaging-line imprinting machine places codes, other changeable legends on *bottom* of jars, bottles, cans, etc. Makes clean, sharp, uniform impressions consistently—regardless of whether container surface is flat or concave, flush or recessed. Designed for quick copy changes, easy cleanup. Offers all the advantages of a fixed-installation imprinter without disadvantage of changing present operation.

Gottscho **ADOLPH GOTTSCHO, INC.** *Automatic* CODING, MARKING, IMPRINTING MACHINES
Dept. C, Hillside 5, N. J.

In Canada: **RICHARDSON AGENCIES, LTD., Toronto & Montreal**

SYNAROME
CORPORATION of AMERICA

Telephone GR. 7-6313
24 East 21st St. New York 10, N. Y.

ANIMALIS:

This Synarome creation has a fresh, nearly green top note followed by a musk-like and deep woodsy undertone. It is not cresolic.

ANIMALIS is modern and blends well with modern backgrounds based on Oakmoss and Vetivert Acetate. It gives interesting effects when used with the Lavender note. In general, this specialty is a booster and gives a sophisticated sexy note. It is not generally advisable to use more than 5 to 10 percent in a formulation.

SAMPLES ON REQUEST

Division of
AMERICAN AROMATICS, INC.
• Perfume Compounds • Essential Oils
• Aromatic Chemicals

these could usually be protected in patents of addition for which no taxes are payable.

In England and most of the British Dominions the patent office examination only covers novelty and form. However in the strict European countries such as Germany, Holland and Sweden, it is necessary to establish not only novelty but also "inventive height" and "advance in the art." Robbins considers the former as non-obviousness to an expert and the latter as general utility.

RECENT PATENTS

2,708,628—**Hoffmann-La Roche—Stabilized Vitamin A Compositions.**

2,708,651—**Chas. Pfizer—Water-Soluble Esters of Pregnanolones.**

2,708,672—**Upjohn—11β. 17α-Dihydroxypregnane-3, 20-Dione.**

2,708,678—**Schering—Iodinated Acyl Derivatives of 2, 4, 6-Triiodometa-Aminobenzoic Acid.**

2,709,171—**Mallinckrodt—Acridones.**

2,709,172—**G. D. Searle—2, 4-Diaminothiazoles.**

2,709,175—**Du Pont — Aldehyde - Dicyclopentadienyliron Reaction Product.**

2,709,665—**J. L. Campbell—Treating Fabrics with Germicide.**

2,709,669—**Merck—Separating Vitamin B12 Active Substances from Contaminants.**

2,709,670—**R. R. Ichelson—Syphilis Diagnosis Using Treponema Pallidum.**

NEW IDEA IN PACKAGE DESIGN

(Continued from page 193)

scenes vary from one to four depending upon the size of the set.

Sportsman has two kits, one a plastic zipper case, and the other, leather, both containing Airlite shaving lotion, cologne for men and liquid deodorant. The word, "Sportsman," is printed on the white covers giving these sets additional gift appeal.

In each of the set packages, the box color is Sportsman green with a white cover. These boxes, in turn, are inserted in tight-fitting sleeves on which are printed the names and set numbers—the first time the company has included this information on the sleeve as an aid in identification.

A removable price sticker is attached to the inner carton so that it is visible at either one of the open ends of the sleeves.

The sets sell at prices ranging from $2, for the pressurized cream shaving lotion, to $12.50, for the pigskin leather kit, while the individual products extend from the $1 four-ounce shave lotion to the $2 eight-ounce cologne.

All these products, states the company, are packaged in the new design and are suitable for gifts without any further wrapping.

Edith Edson is responsible for the design of the packages, along with Donald Q. O'Brien. Ceragraphic, Inc. handled the decoration; Container Corp. of America, the folding cartons; and Kiernan-Hughes and J. Landown Co., the set boxes.

LIQUID CREAMS

(Continued from page 183)

	Hair Dressings[2]	
	No. 313	No. 314
Petrolatum	6.0	7.5
Mineral oil	37.5	37.5
Lanolin	3.0	.....
Beeswax	12.0	2.0
Arlacel 83	3.0	2.0
G 1425 Lanolin derivative	.....	4.5
Arlacel 20	1.0	.....
Tween 20	2.0	.....
Borax	0.5	.....
Water	35.0	46.5

The oil-soluble components and the Tween are heated together to 70° C. while the borax dissolved in water is heated to 75°. The aqueous solution is added to the oil mixture while stirring and the stirring is continued to room temperature. The preservative, depending upon its solubility characteristics, is added to the aqueous or oil phase before mixing; perfume is added to the emulsion at 45° C. Number 313 is a heavy white emulsion which will pour from a standard lotion bottle; the lanolin derivative in No. 314 improves emulsification and contributes modified lanolin characteristics to the emulsion.

	Suntan Lotion[2]
	No. 316
Mineral oil	25.0
Arlacel 60	4.0
Tween 60	6.0
Screening agent	3.5
Water	61.5

Arlacel 60[2] is sorbitan monostearate.

Tween 60[2] is polyoxyethylene sorbitan monostearate.

The oil-soluble components are melted together at 55° C. and the water at 60° is added with stirring. Stir to room temperature, adding the perfume at 50° C.

	Liquid Cleansing Cream[3]	
Stearic acid	4.7	25 lbs.
Mineral oil	10.6	57 "
Lanolin	6.4	34 "
Triethanolamine	1.8	9.5 "
Propylene glycol	14.0	75 "
Quince seed mucilage	3.6	19 "
Water	58.9	315 "

Heat the stearic acid, mineral oil and lanolin to 70° C.; heat the triethanolamine and water to 70° and add, with stirring, the hot oil mixture. The quince seed mucilage is made by soaking overnight a mixture of 9.5 ounces of quince seed and 20 pounds of water at 80° (a preservative should be included to prevent molding)

and straining through a cloth. This mixture is added to the emulsion. Finally, perfume dissolved in the propylene glycol is added at 50° and the liquid cream stirred to room temperature. If the cream is allowed to cool without stirring it will tend to thicken on standing.

	Liquid Cleansing Cream[4] No. 157
Tegin P	6.5
Oleic acid	3.0
Mineral oil	24.0
Lanolin	1.0
Triethanolamine	1.5
Water	64.0

Tegin P[4] is a self-emulsifying grade of propylene glycol monostearate.

All components of this formula are heated together to 75 to 90° C. and stirred until a homogeneous lotion results. A preservative should be included, and perfume should be stirred in at a suitable temperature, below 50°. The emulsion should be stirred until it is cool. This preparation is a useful basic oily emulsion; it is satisfactory for suntan use if some of the mineral oil is replaced by an equal weight of sunscreen. Titanium dioxide and other inert pigments may be ground into the finished liquid cream to make a liquid make-up base.

	Cleansing Lotion[5] No. 4
Stearic acid	2.0
Mineral oil	15.0
Preservative	0.1
Isopropyl myristate	2.0
Polyethylene glycol 400 monostearate	10.0
Lanolin	5.0
Beeswax	8.0
Propylene glycol	5.0
Triethanolamine	1.0
Water	51.9

The triethanolamine dissolved in water is heated to 70° C., the other components are heated to the same temperature in another vessel and the aqueous solution is added to the melted oils and waxes with stirring. Stirring is continued to room temperature, perfume being added at 40 to 50°.

BIBLIOGRAPHY

1. American Cholesterol Products, Inc., Milltown, N. J.
2. Atlas Powder Company, Wilmington 99, Delaware.
3. Carbide and Carbon Chemicals Corporation, New York 17, N. Y.
4. Goldschmidt Chemical Corporation, New York 14, N. Y.
5. Kessler Chemical Co., Inc., Philadelphia 35, Pa.

CREAM RINSES

(Continued from page 181)

pH however may be controlled by the judicious use of the proper buffers.

If a new product of this type is contemplated biological testing of the final preparation is almost always called for. All of the raw materials by themselves may

Modern Flavors for Modern Medicines

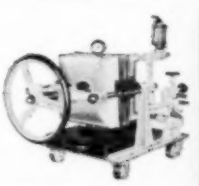
● There is nothing like MM&R Flavors to impart outstanding taste appeal to drugs both old and new.

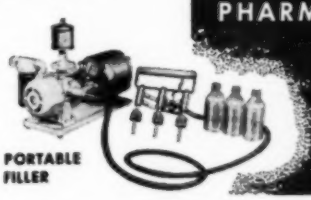
Over 50 per cent of the drugs in use today were unknown to medicine ten years ago. Many are unpalatable and difficult to mask with traditional flavors.

To meet the highly specialized flavor problems of the modern pharmaceutical industry our chemists have developed AROMATIC MIXTURES MM&R — "Modern Flavors for Modern Medicines."

Write for special literature and price list.

MAGNUS, MABEE & REYNARD, INC.
One of the World's Greatest Suppliers of Essential Oils and Flavoring Materials
16 DESBROSSES STREET, NEW YORK 13, N. Y.
221 N. LaSALLE STREET, CHICAGO 1, ILLINOIS


EFS-B FILTER


PORTABLE FILLER

For FILTERING and FILLING
small plant or batch lots of
PHARMACEUTICALS, COSMETICS, CHEMICALS, FOODS, DRUGS, SOAPS, ETC.

Two Ertel units that make small production efficient. They have all the desirable features of Ertel high production equipment: EFS-B FILTER has single hand wheel for simple trouble-free operation, bronze or stainless circulatory system, accommodates accepted Ertel Asbestos Filter Sheets. PORTABLE FILLER has automatic overflow system, non-drip spouts, bottle size flexibility up to gallons. And, both units can be easily moved from place to place. Write for detailed information on this important equipment . . . it belongs in your plant.

ERTEL ENGINEERING CORPORATION
KINGSTON 1, NEW YORK
Branch Office & Showroom Located in New York City
COMPLETE LINE OF *Liquid Handling Equipment*

have the required non-irritant properties, but too often a combination of them may cause unpredicted irritational reactions. For the manufacturer's own protection the product should be checked against the rabbit's eye according to the method which has now become almost standard. There have not been any irritational complaints to speak of from cream hair rinses now on the market, and made by responsible manufacturers. The subjection of the sample to this test is a simple method of insuring both continued good will and the ultimate success of the preparation.

CARBOPOL 934 IN COSMETICS AND PHARMACEUTICALS

(Continued from page 179)

In general, the methods of incorporation and utilization of Carbopol 934 in cosmetics are very similar to those described in the section on pharmaceuticals. Thus, it serves admirably as a suspending agent and cream base. Such utilizations are indicated by its use in the following types of cosmetics: cold creams, vanishing creams, emollient creams, facial creams, cleansing creams, hand creams, hand lotions, and protective creams.

Cold cream is a very popular cosmetic and one of the most ancient. A cold cream should contain non-irritating materials so compounded as to spread evenly and not be too hard or too soft regardless of the weather. Carbopol 934 serves as a useful adjunct in this type of preparation. The following formula indicates such usage:

Spermaceti	6.00 Gm.
Beeswax	6.00 Gm.
Carbopol 934	10.00 Gm.
Sodium Carbonate	1.75 Gm.
Rose Water	5.00 cc.
Rose Oil	0.02 cc.
Expressed Almond Oil	56.00 Gm.
Distilled Water	20.00 cc.

Thus, a cold cream which is softer in consistency than most commercial cold creams may be prepared.

An emollient cream may be formulated somewhat similarly to a cold cream except that skin softening agents such as lanolin should be included in the formula. The following illustrates the use of Carbopol 934 in such a formulation:

Beeswax	5.00 Gm.
Mineral Oil	10.00 cc.
Neutralized five per cent Carbopol 934	12.50 Gm.
Lanolin	1.50 Gm.
Arlacel A	2.50 cc.
Tween 60	1.00 cc.
Methyl Paraben	0.03 Gm.
Water	17.00 cc.
Sodium Borate	0.35 mgm.
Perfume, as desired	

For the most part, a vanishing cream is made of stearic acid and a univalent binder, usually as a sodium, potassium or ammonium salt. The result is an oil-in-water emulsion, which is further miscible with water. Vanishing cream formulas generally contain a high percentage of fluids, which may cause difficulty in that the product may not "hold up" adequately on prolonged agitation. A vanishing cream formula containing Carbopol 934 is indicated below:

Stearic Acid	13.00 Gm.
Carbopol 934	1.50 Gm.
Sodium Carbonate (to neutralize)	0.72 Gm.
Glycerin	7.20 cc.
Sodium Carbonate	0.40 Gm.
Lanolin	8.00 Gm.
Sodium Borate	5.00 Gm.
Distilled Water	75.00 cc.
Perfume, as desired	

Such a cream appears to be definitely superior to one of similar nature prepared using tragacanth as an aid to the emulsifier. The above formula may be modified by the inclusion of other emollients (additional lanolin, mineral oil, etc.) to produce a cream of an even softer consistency and greater spreading power, thus producing a very desirable facial cream.

Cleansing creams are presumed to lead the sale of all other creams in sales volume. Dirt on the skin is bound by oily substances and generally requires special methods of removal. Since many soaps may be drying to the surface of the skin, a cream of some sort is often preferred for this cleansing. A mineral oil gel may be prepared by utilizing the following formula and this gel will function admirably as a cleansing cream:

Mineral Oil	24.00 cc.
Five Per Cent Carbopol 934 Gel	24.00 Gm.
White Wax	3.10 Gm.
Paraffin	12.40 Gm.
White Corn Meal	4.00 Gm.
Perfume, as desired	

Hand lotions are really all-purpose lotions. The function of a hand lotion is to smooth and soften roughtened skin. They may be considered as modified semi-solid or liquid vanishing creams. Such modifications as are imparted to the formula depend somewhat on the differences in the requirements for a preparation that is to be applied to the hands as compared with one to be applied to the face. Such preparations should be greaseless and rub into the skin readily. Formulations utilizing Carbopol 934 manifest these properties exceptionally well. Gums have been useful additives to hand creams and lotions. Preservatives have usually been necessary due to the tendency of the naturally occurring gums to undergo bacterial and/or microbial decomposition. Carbopol 934 circumvents this nicely and no preservative is needed to prevent such decomposition of a cream base using Carbopol 934. It may be preferable to have the pH of such frequently used creams and lotions match the pH of the skin (normally

acid). The following two formulas, when utilized, will produce (A) a light hand cream and (B) a hand lotion. The hand cream uses non-neutralized Carbopol 934 and thus imparts an acidity to the finished product. the pH of this cream is approximately six.

A

Propylene Glycol	24.7 cc.
Triethanolamine	1.0 cc.
Water	12.0 cc.
Oleic Acid	0.75 cc.
Glyceryl Monostearate	1.5 Gm.
One Per Cent Non-neutralized Carbopol 934 Suspension	50.0 cc.
Perfume, as desired	

B

Propylene Glycol	24.75 cc.
Triethanolamine	1.00 cc.
Water	12.00 cc.
Oleic Acid	1.50 Gm.
Polyethylene Glycol 400 Monostearate	10.50 Gm.
Dow Corning Silicone Fluid No. 200	10.00 cc.
Two Per Cent Carbopol 934 Mucilage	50.00 Gm.
Perfume, as desired	

The term "protective cream" is used loosely to include the standard type of items (hand lotions, suntan creams, etc.) designed to prevent skin irritation due to undesirable weather conditions and also creams which have substantial resistance to various types of industrial irritants. Such a cream, based on Carbopol 934 and containing Dow Corning Silicone Fluid No. 200 appears to meet well the requirements of an "ideal" protective cream as cited by Mumford[6]. The formula is as follows:

Cetyl Alcohol	4.6 Gm.
Stearyl Alcohol	4.6 Gm.
Sodium Lauryl Sulfate	.75 Gm.
Dow Corning Silicone Fluid No. 200	6.0 cc.
Five Per Cent Carbopol 934 Mucilage	50.00 Gm.
Perfume, as desired	

Such a cream is especially useful for those who have their hands in water to any great extent. The silicone does not rapidly emulsify with water and so forms a relatively stable water-repellent film.

In conclusion, it should be emphasized that these formulas are only designed to give an indication of the possible utilization of Carbopol 934 in the cosmetic and pharmaceutical industries. They are typical formulas which may well serve as a guide for the formulation of many new and varied products.

REFERENCES

1. "Carbopol 934—Service Bulletin GC-20," B. F. Goodrich Chemical Co., Cleveland, Ohio.
2. Wm. B. Swafford and W. Lewis Nobles, *J. Am. Phar. Assoc.*, (Practical Pharmacy Edition), **16**, 171 (1955).
3. Ruth E. Streeter, Phyllis Caver, and W. Lewis Nobles, *ibid.*, in press.
4. D. Skauen, *et al.*, "Pharmaceutical Uses of Carbopol," presented before the Scientific Section of the 102nd Meeting of the American Pharmaceutical Association, Miami Beach, Florida, May 5, 1955.
5. Private Communication thru the courtesy of L. L. Shailer, B. F. Goodrich Chemical Company, Cleveland, Ohio.
6. E. G. Thomsen, "Modern Cosmetics," Drug and Cosmetic Industry New York, 1947, p. 139.

MOULDS

LIPSTICK - COLOGNE - DEODORANT
STYPTIC PENCILS - MASCARA
SUPPOSITORIES

PROGRESSIVE LABELING MACHINE, Inc.
137 West 22nd St., New York 11, N. Y.

ROUGE COMPACT POWDER
PUNCHES FOR TABLETS
also
FOOT & POWER PRESSES FURNISHED

DIES

HIGH GRADE
COSMETIC POWDERS
Tamms

- Powdered Talc
- Infusorial Earth
- English Kaolin
- Clay and Silica
- Precipitated Chalk

Write us about your special needs.
Send for prices and samples.

TAMMS INDUSTRIES, INC., Dept. RM-11, 228 N. La Salle St., Chicago 1

falba
Reg. U. S. and Foreign Countries
"THE HEART OF LANOLINE"
THE OXYCHOLESTERIN ABSORPTION BASE
Suggested Formulae on Request
Pfaltz & Bauer, Inc.
EMPIRE STATE BUILDING, NEW YORK

VANILLIN
ZIMCO® LIGNIN VANILLIN U. S. P.
A Natural Source Vanillin Originated and Manufactured in the United States.
A Finer Vanillin of Exquisite Aroma.
Consult your flavor supplier
Sterwin Chemicals
SUBSIDIARY OF STERLING DRUG INC.
1450 BROADWAY, NEW YORK 18, N. Y.
2020 Greenwood Ave., Evanston, Ill.
FACTORY: ROTHSCHILD, WISCONSIN

Professional Service

Rates: $8.00 one inch deep by one column wide.

***ARLINCO RESEARCH LABORATORY, INC.**
Research, Formulation and Application to the Industry.
Ethical Pharmaceuticals, Drugs, Cosmetics and Perfumery.
333 W. 52nd St., New York 19, N. Y.
PLaza 7-3861
*A-R-L Inco means: Applied Research Laboratory, Incorp.

LEBERCO LABORATORIES
Hormone Assays • Drug Assay
Pharmaceutical and Cosmetic Research
Sterility Tests • Toxicity Studies
Send for information concerning our services
125 HAWTHORNE ST ROSELLE PARK N. J.

RESEARCH LABORATORIES
FOSTER D. SNELL INC.
29 WEST 15TH ST. NEW YORK 11, N.Y. — WA 4-8800
CHEMISTS • ENGINEERS

SEIL, PUTT & RUSBY, INC.
Analytical, Consulting, Research Chemists
Established 1921
Specialists in analysis of Drugs, Cosmetics Essential Oils.
Ask for Estimates-Quotations-No Obligation
Lab'a: 16 East 34th Street, New York 16, N.Y.
Telephone Murray Hill 3-6368

WISCONSIN ALUMNI RESEARCH FOUNDATION
Project Research, Consultation, and Production Control Services in Biochemistry, Chemistry, Bacteriology, Pharmacology, and Insecticide Testing and Screening
WRITE FOR PRICE SCHEDULE
WISCONSIN ALUMNI RESEARCH FOUNDATION
P.O. BOX 2059 - MADISON 1, WISCONSIN

TRUESDAIL Laboratories, Inc.
Write for Brochure-4101 N. Figueroa St.
Los Angeles 65, Calif. • CApitol 4148
Product & Process Development
Toxicology
Sterility Tests
CHEMISTS • BACTERIOLOGISTS • ENGINEERS
Charter Member ACIL

Classified Advertising

Machinery and Equipment For Sale

UNION Rebuilt Machinery
Established 1912
Modern Rebuilt Machinery
At Tremendous Savings

Fitzpatrick "D" S.S. Comminutor.
Stokes RBB, D3 Tablet Machines.
Colton 2RP, 3RP, 5½T Tablet Machines.
Capen 4-Head, Resina LC Auto. Cappers.
Copper Coating Pans, 24" to 40" diameter.
B. P. 2 to 200 gal. Double Arm Mixers.
Pfaudler King Model C9, Horix, Elgin Stainless Steel Rotary, MRM Fillers.
Pony M, MX, ML; Ermold, World, Semi and Pneumatic Auto. Labelers.
Burt Wraparound Labeler, (to 1 gal.)
Day Powder Mixers, 15 to 10,000 lbs. cap.
Rotex, Robinson, Tyler Hum-mer, Gayco, Raymond, Selectro, Great Western Sifters.
Mikro 1SH, 2TH, 3TH, 4TH Pulverizers.
Day 50 gal. Gearless Pony Mixer.
Hobart, Read, Glenn 10 to 120 qt. Mixers.
Podbelniak 6080 S.S. Solvent Extractor.
S. & S. G1, G2, G6, HG88 Powder Fillers.
Hayssen, Package Machy., Oliver, Hudson Sharp, Scandia, Miller Wrappers.

IMMEDIATE DELIVERIES
Tell Us Your Requirements
Complete Details and Quotations Promptly Submitted

UNION STANDARD EQUIPMENT CO.
318-322 Lafayette St., New York 12, N. Y.

FOR SALE: 1-Baker Perkins S.S. jacketed Mixer 35 gal.; 1-Day S.S. Mixer 50 gal.; 9-Stokes DD82, DD2, BB2, D4, D3 and B2 Rotary Tablet Machines; 1-Mikro No. 2 TH S.S. Pulverizer; 6-Rotex Sifters 40"x120", 40"x84", 40"x56", 20"x48" single and double deck; 1-Robinson 4000 lbs. heavy duty Powder Mixer; 1-Day 2000 lbs. Powder Mixer; 2-Shriver 30" and 24" aluminum P&F Filter Presses; 3-Groen 150 and 125 gal. S.S. agitated Kettles; 4-Devine Vacuum Shelf Dryers 4, 6, 10 and 17 shelves. Partial Listing. Send for "News Flash". BRILL EQUIPMENT COMPANY, 2402 Third Avenue, New York 51, New York.

FOR SALE: Eppenbach QV-6 S.S. Universal Colloid Mill; Premier U-5 Mills S.S. 3/5 H.P. Motors; Carrier 8 Truck Dryer; Barrett Dumping Elevator; Belt Conveyors 10' to 60" w 10" to 15" Belts; S. & S. Auger Fillers, Semi & Automatic; Micro Bantam S.S. Pulverizer; Raymond 16" Screen Mill 5 H.P.; Rotex Screens 20" x 48" to 40" x 120"; Powder Mixers 100 to 2000 lbs.; Glascote 750 Gal. Glass Lined Jack. Kettle; 5 Pfaudler 100 Gal. Closed G. L. Tanks—New; Stainless Steel Kettles & Tanks, Labelers, Liq. Fillers etc. Send for complete listings. We buy single items or complete plants. THE MACHINERY & EQUIPMENT CORP., 533 W. Broadway, New York 12, N. Y. GRamercy 5-6680.

FOR SALE: Stainless steel tanks & kettles, new and used. Tablet machines. Portable electric agitators. Mixers, grinders, pebble mills, filter presses, dryers, filling machines, labelers, capping machines, etc. Send for listing. STEIN EQUIPMENT CO., 107 8th Street, Brooklyn 15, N. Y.

Situations Wanted

At present SUCCESSFUL TECHNICAL DIRECTOR medium sized diversified pharmaceutical manufacturer, charge of research and development, production and control, seeks position with future. 35 years, adaptable, able technologist, scientist, administrator. M. S., Ph.D. (Biochemistry-Microbiology) and 3 years medical school. Box AU-3, DRUG & COSMETIC INDUSTRY.

HAIR COLOR: HAIR COSMETICS
Available now as director or consultant in hair coloring and hair cosmetic research. 25 years experience. Originator of many successful products. Activities cover: new tenacious temporary colors for gray and white hair; color shampoos; bleaches; permanent dyes; reconstitution of degraded hair; general research in all allied branches. Intensive practical knowledge of pilot production, test marketing, advertising cooperation.
Box AU-1, DRUG & COSMETIC INDUSTRY
101 West 31st St., New York 1, N. Y.

Equipment Wanted

WANT TO BUY: MODERN AEROSOL FILLING SETUP PREFERABLY COMPLETE WITH REFRIGERATION. ALL INQUIRIES WILL BE HANDLED CONFIDENTIALLY. PLEASE WRITE BOX AU-4, DRUG & COSMETIC INDUSTRY.

Help Wanted

COSMETIC CHEMIST: Well-known manufacturer requires experienced chemist with background in creating and manufacturing high-quality nail preparations, lipsticks and other cosmetics. Box AU-5, DRUG & COSMETIC INDUSTRY.

PERFUMER
CHEMIST PHARMACIST

A leading Metropolitan New York essential oil and aromatic chemical firm seeks a man to join its staff of perfumers.

The assignment will be chiefly concerned with the perfuming of cosmetics, toilet preparations, soaps, etc. A degree or sound background in pharmacy or chemistry is required, knowledge of the field, an asset. We would consider an experienced perfumer. A good sense of smell is an absolute essential. Though our man need not be a perfumer, he must be capable of developing his olfactory senses so that he can be trained in the fundamentals of our business.

We offer a permanent connection with starting salary commensurate with previous experience.
To be considered, it is necessary to submit a complete personal resume of your educational background and previous employment. All replies will be treated confidentially.

Our people know of this opening.

Box AU-2, Drug & Cosmetic Industry
101 West 31st Street, New York 1, N. Y.

Aromatic Chemicals

FOR PERFUMERY AND FLAVORS

Isopropyl Quinoline • Isobutyl Quinoline
Ethyl Anthranilate • Isobutyl Anthranilate
Diacetyl • Acetyl Propionyl • Acetoin

FAIRMOUNT CHEMICAL CO., INC.
600 FERRY STREET • NEWARK 5, N. J.

TL Beeswax

- PURE WHITE
- EXTRA QUALITY
- ABSOLUTELY PURE
- ABOVE U.S.P. STANDARDS

Samples will gladly be sent on request—at no obligation.

Serving the Trade for 103 Years

THEODOR LEONHARD WAX CO., INC.
HALEDON, PATERSON NEW JERSEY
Western Distributor: A. C. Drury & Co., 219 E. North Water St., Chicago, 11, Ill

---

MOULDS for LIPSTICKS MASCARA SUPPOSITORIES STYPTIC PENCILS and **DIES** for ROUGE COMPACT POWDER

Write for Catalog

A. CAVALLA, INC. 163 West 18th Street, New York, 11, N.Y.

BOOKS:

As a convenience to our subscribers we offer the books of all publishers—technical and non-technical—at the regular published price—postage paid anywhere.

Consult our BOOK DEPARTMENT—direct your inquiries to

Book Department
Drug & Cosmetic Industry
101 West 31st St., New York 1, N. Y.
LOngacre 3-3177

Use **LABELS AND SEALS..**
by
JOHN HORN
835 - 839 TENTH AVENUE
NEW YORK 19, N. Y.
FOR OVER FIFTY YEARS
for greater sales appeal
METAL • EMBOSSED • ENGRAVED
DIE STAMPING FOR BOXMAKERS

MEXICO

Our manufacturing facilities and sales organization will guarantee American techniques in merchandising your product or line. We have established distribution to the drug and cosmetic trade in the entire country. If your product or line is not in Mexico, and should be, or is in Mexico and not doing what it should, then you should contact:

A. A. Vann, Pres.
VANTONE, S. A.
LIVERPOOL 179 MEXICO D. F. MEXICO

SODIUM POTASSIUM SACCHARATE
$NaOOC(CHOH)_4$ COOK
INDUSTRIAL AND PHARMACEUTICAL
For sequestering metallic ions
Ferrous, Ferric, Calcium and
other salts available
For further information write to
READING *Testing Laboratories,* INC.
Reading, Penna.

PAPAVERINE HYDROCHLORIDE TABLETS . . .
½ gr. 1 gr. 1½ gr.
Now in Stock

ASK FOR NYSCO NEWS & NOTES

AVAILABLE FOR IMMEDIATE DELIVERY
Tel. RAvenswood 9-6960
CABLE: NYSCOLAB, N. Y.

NYSCO LABORATORIES Inc.
22-14 - 40th Ave.
Long Island City, N. Y.

WITCO

Cosmetic Grade

STEARATES

BUTYL
CALCIUM
LITHIUM
MAGNESIUM
SODIUM
ZINC

WITCO CHEMICAL COMPANY
122 East 42nd Street, New York 17, N. Y.

35 Years of Growth

Efficient, Economical, Uniform

Write today for Stearates Bulletin 53-1

Chicago • Boston • Cleveland • Akron • Atlanta • Houston
Los Angeles • San Francisco
London and Manchester, England

ADVERTISING INDEX

Alsop Engineering Corp. 244
American Cholesterol Products, Inc. 262-263
American Cyanamid Co., Fine Chemical Division 162
Anchor Hocking Glass Company 210-211
Ansbacher-Siegle Corp. 252
Armstrong Cork Company 205
Atlas Powder Co. ..... Insert facing 157
Avon Products, Inc. 144

Baker & Bros., H. J. 154
Baker Chemical Co., J. T. 218
Barr & Company, G. 196
Beauty Fashion 164
Bush & Co., W. J. 252

Carbide & Carbon Chemicals Div., Union Carbide & Carbon Corp. ..... Insert facing 156
Carr-Lowrey Glass Co. 212
Cavalla, Inc., A. 283
Chaleyer, Inc., Ph. 260
Colton Company, Arthur 238, 272
Columbia-Southern Chemical Corp. 152
Container Craft, Inc. 275
Continental Can Co. 194, 220
Continental Filling Corp. 213
Cross Paper Products Corp. 202
Crown Cork & Seal Company 214

Devold Oil Co., Peder 260
Distillation Products Industries 160
Dodge & Olcott, Inc. 166
Dow Chemical Corp. 147
Dragoco 145
du Pont de Nemours & Co., Inc., Cel-O-Seal Section 198
du Pont de Nemours & Co., "Kinetic" Chemicals Div. 206-207
Durlin & Co. ..... Insert facing 172
Duveen Soap Corp. 141

Eastman Chemical Products, Inc. 273
Emery Industries, Inc. ..... Insert bet. 156-157
Ertel Engineering Corp. 279

Fairmount Chemical Co., Inc. 283
Felton Chemical Co., Inc. 168
Firmenich Incorporated ..... Insert facing 165
Florasynth Labs., Inc. 228

Gair Co., Inc., Robert ..... Insert facing 204
Givaudan-Delawanna, Inc. ..... Insert bet. 172-173
Glycerine Producers Assn. 151
Goldschmidt Chem. Corp. 153
Goodrich Chemical Co., B. F. 157
Gottscho, Inc., Adolph 277
Gross, A. & Co. 148

Harchem Division, Wallace & Tiernan, Inc. 149
Haring Equipment Corp. 248
Heyden Chemical Corp. 246
Hoffmann-La Roche, Inc. 250
Hormann & Co., F. R. 260
Horn, John 283
Huisking & Co., Inc., Chas. L. 260

Imco Container Corp. ..... Insert facing 216

Jefferson Chemical Co. 235

Kohnstamm & Co., H. ..... Insert facing 164
Kolmar Laboratories 163

Leonhard Wax Co., Theodore 283

Magnus, Mabee & Reynard, Inc. 279
Mallinckrodt Chemical Wks. ..... Insert facing 173
Mateer Co., G. Diehl 265
Maywood Chemical Works 161
Merck & Co., Inc. 255
Metalsmith Division of Orange Roller Bearing Co. 258

National Formulary 268
New Jersey Machine Co. 240
New Jersey Zinc Co. 271
New York Quinine & Chemical Works, Inc. 170
Norda Essential Oil & Chemical Co. ..... Cover 2
Nysco Laboratories 283

Old Empire Mfg. Chemists, Inc. 260
Owens-Illinois ..... 190-191 and facing 209

Parsons-Plymouth, Inc., M. W. 264
Partition Manufacturing Co. 272
Peerless Tube Company ..... Insert facing 200
Penick & Co., S. B. 232
Pennsylvania Glass Products Co., Inc. 215
Pennsylvania Refining Co. 269
Pfaltz & Bauer Co., Inc. 281
Pfizer & Co., Inc., Chas. ..... Cover 4
Plax Corporation ..... Insert facing 201
Plume & Atwood Mfg. Co. ..... Insert facing 205
Pneumatic Scale 242
Polak's Frutal Works 266
Poly Perm Printing, Inc. 267
Popper & Sons, Inc. 258
Progressive Labelling Machine, Inc. 281

Reading Testing Laboratories, Inc. 283
Rhodia, Inc. 150
Richford Corporation 204
Roure-Dupont, Inc. ..... Insert bet. 224-225

Santonin Company of America, Inc. 260
Schimmel & Co., Inc. 233
Scoville Manufacturing Co. ..... Insert facing 193
Seaplant Chemical Corp. 248
Sheffield Tube Corp. ..... Insert facing 208
Shell Chemical Corp. 155
Shellmar-Betner-Continental Can Co. 220
Sigmamotor, Inc. 266
Sindar Corporation 226
Standard Oil Company (Indiana) 143
Standard Pharmacal Company 248
Stepan Chemical Company ..... Insert bet. 156-157
Sterwin Chemical, Inc. 234, 281
Stokes Machine Co., F. J. 236
Strong Cobb & Co., Inc. 158
Sun Tube Corp. ..... Insert facing 217
Synarome Corp. of America 277
Synfleur Scientific Labs., Inc. 146
Syntomatic Corp. 222

Tamms Industries, Inc. 281
Tombarel Products Corp. 156

Ungerer & Co., Inc. ..... Cover 3
Union Carbide & Carbon Corp., Carbide & Carbon Chemicals Div. ..... Insert facing 156
U. S. Bottlers Machinery Co. 245
U. S. Industrial Chemicals, Inc., Insert bet. 148-149

van-Ameringen-Haebler, Inc. 230-231
Van Dyk & Company, Inc. 248
Vantone, S. A. 283
Verley & Company, Albert ..... Insert bet. 256-257
Verona Chemical Company 159

Whittaker, Clark & Daniels, Inc. 258
Will & Baumer-Candle Co. 252
Witco Chemical Co. 284
Wolf, Jacques & Co. 258

53-1

281
Cover 4
ert facing 201
ert facing 205
242
266
2c7
258
281

283
150
204
t bet. 224-225

2c0
233
ert facing 193
248
ert facing 208
155
220
2cc
226
143
248
t bet. 15c-157
234, 281
236
158
ert facing 217
277
146
222

281
15c

Cover 3
ide & Car-
ert facing 15c
245
t bet. 148-149

230-231
248
283
t bet. 25c-257
159

258
252
284
258

st '55: 77, 2

UNGERER

Importer
Manufacturer

* FOR 60 YEARS

a fine tradition
in the creation
of basic materials
for PERFUMES and
PERFUME SPECIALTIES

Essential Oils

Aromatic Chemicals

Terpeneless Oils

Oleoresins

True Fruit and Imitation Flavors

UNGERER & CO. NEW YORK

Ungerer & Co.

161 Avenue of the Americas, New York 13, N. Y.
plant and laboratories
Totowa, N. J.

CHICAGO • BOSTON • PHILADELPHIA • ST. LOUIS • LOS ANGELES • ATLANTA

from our synthesis to your tableting Pfizer Crystalets have been proven by four years of experience...

Protect your label claims with

PFIZER VITAMIN A CRYSTALETS® AND VITAMIN A AND D CRYSTALETS®

● You can add less overage with confidence when you formulate with Pfizer Crystalets. The Vitamin A and D in Crystalets retain *more of their original potency* than do other commercial forms of these vitamins. Crystalets' remarkable stability has been proven by four years of testing and practical storage experience.

Pfizer Crystalets are dry, free-flowing beadlets. They contain pure CRYSTALLINE Vitamin A Acetate and CRYSTALLINE Vitamin D_2 enveloped in a special matrix of gelatin and sugar. Their excellent biological availability has been well established. And Crystalets are easy to handle in manufacturing a wide variety of dry products.

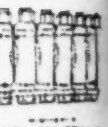
Pfizer Vitamin A Crystalets are available in potencies of 250,000 units and 500,000 units per gram in fine and medium mesh sizes. Vitamin A and D Crystalets are available in potencies of 500,000 Vitamin A units per gram in combination with either 100,000 or 50,000 Vitamin D units per gram. Other A:D ratios can easily be obtained by blending. And, *in any ratio, the cost of adding Vitamin D is minimal.*

Check with Pfizer, one of the nation's leading vitamin manufacturers, when you need versatile stable forms of Vitamin A, or Vitamin A combined with D, for your existing and new specialties. Your experienced Pfizer representative will provide the details. There's no substitute for experience in protecting the reputation and sales of your Vitamin A products!

Pioneer and Leading Manufacturer of Vitamins

Pfizer

CHAS. PFIZER & CO., INC.
Chemical Sales Division
630 Flushing Ave., Brooklyn 6, N. Y.
Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga.



LETS®

in fine
stalets
its per
Vita-
ily be
ost of

tamin
rms of
your
Pfizer
o sub-
n and

c.

Calif.